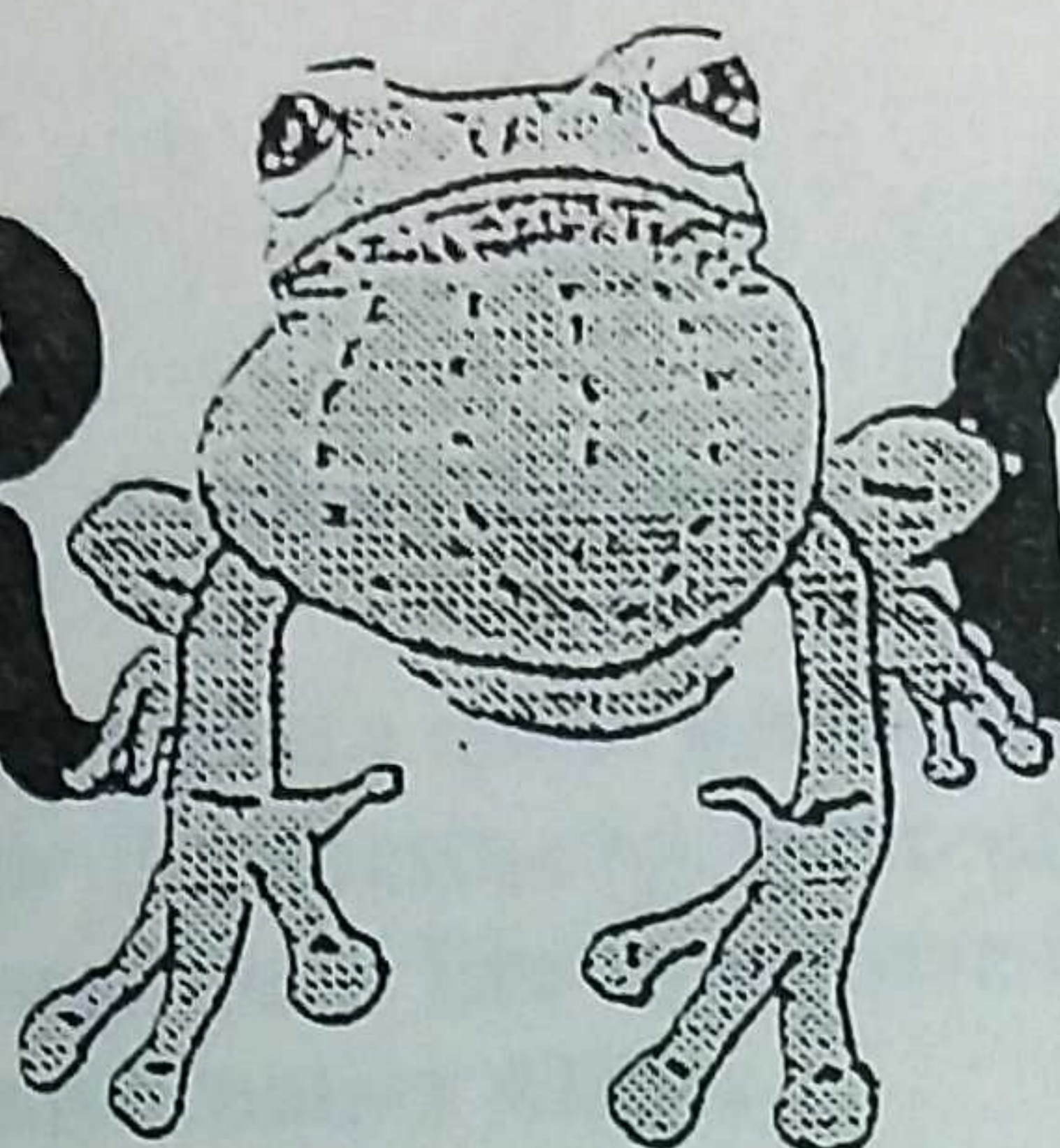


FROG CALL



THE FROG AND TADPOLE
STUDY GROUP OF NSW INC.

NUMBER 31 - SEPTEMBER 1997
PO Box A2405
Sydney South NSW 1235

THE NEXT MEETING
7.00 PM, FRIDAY 3rd OCTOBER 1997

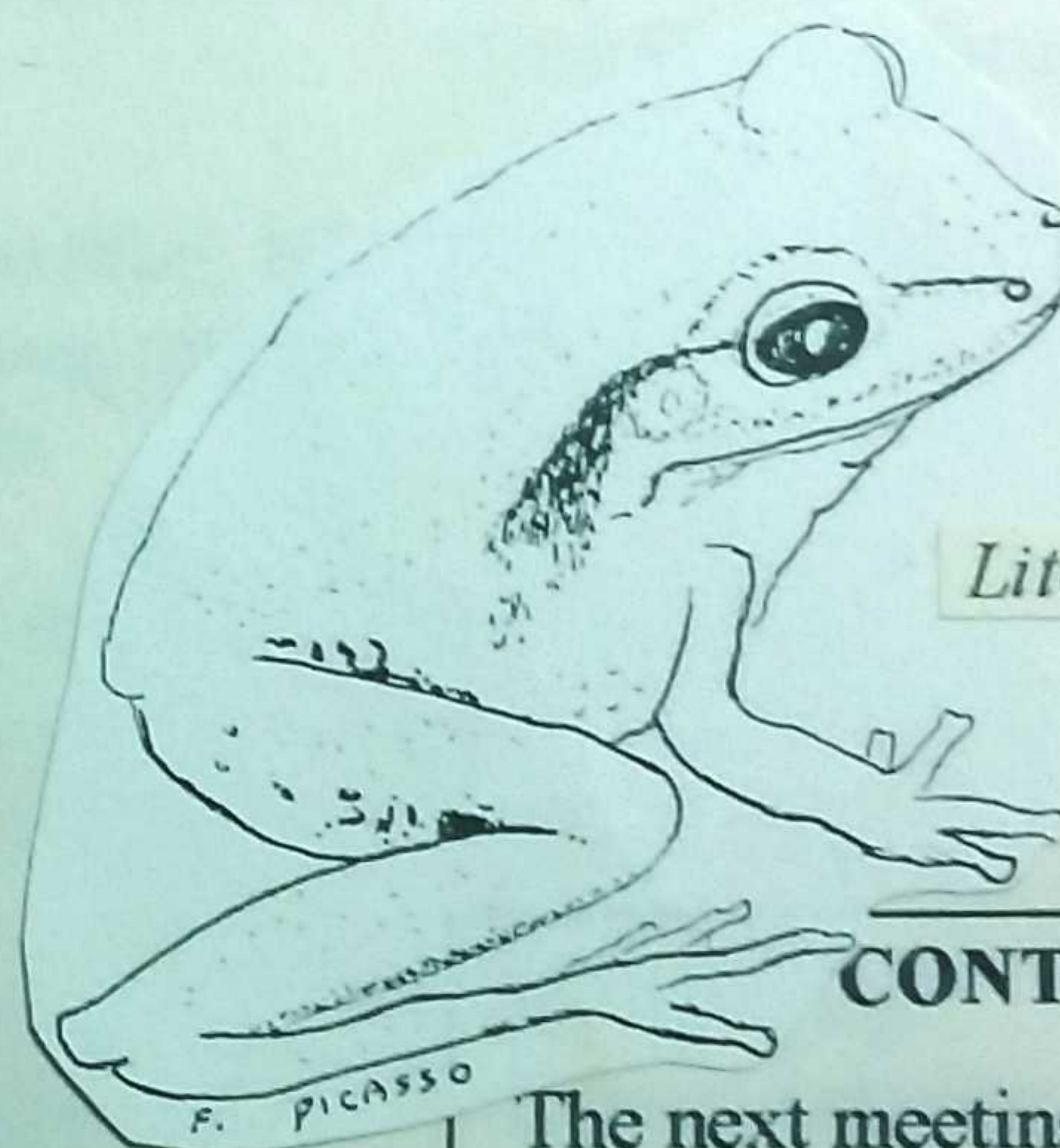
AT THE AUSTRALIAN MUSEUM (WILLIAM ST ENTRANCE)



Assa darlingtoni

Courtesy of Robert Ashdown

Winter 1997 Wildlife Australia



Litoria brevipalmata

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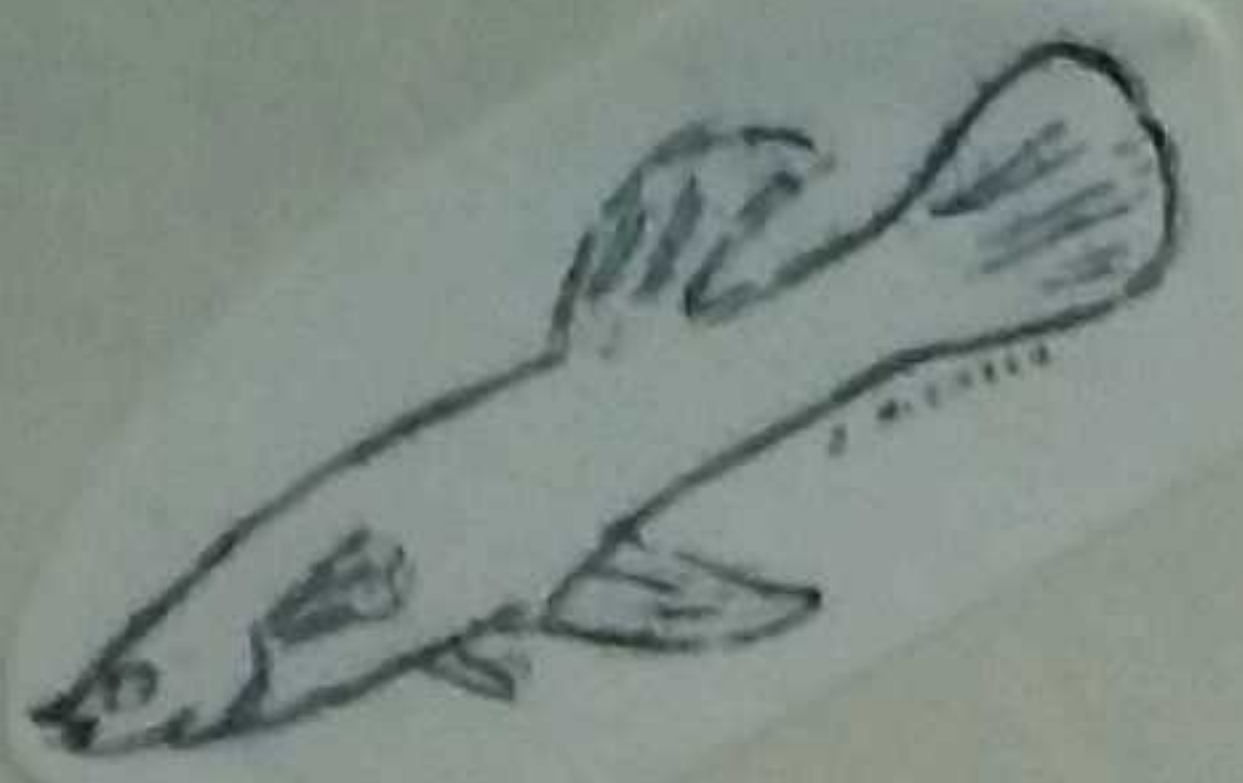
MEETING FORMAT for 3rd October 1997

- 7:30pm *Assa darlingtoni* Hip-pocket Frog - Michael Mahony
- 8.15pm 5 favourite frog slides or 5 minutes
- 8.40pm Raffle and Auction
- 9.00pm Finish for tea, coffee & biscuits



REGULAR FEATURES

News and announcements, field trips, projects and committee reports.
Discussions, advice, gossip, welcome table, auction, sales table!
Bring a visitor!



- Alison Frappell (Secretary) gave a quick summation of the responses received by the questionnaire circulated at the last meeting. If you would like to comment on the running of FATS please contact Alison.
- Ken Griffiths (Field trips co-ordinator) announced two 1 hour after dark field trips on Sat 16 August and on Sat 20 Sept 97. If you are interested in field trips, particularly if you are in the southern suburbs, please contact Ken.
- The FATS executive encouraged members to help with the next newsletter, even if it only be as an occasional participant. If you would like to help contact Monica Wangmann on 9 797 6543.
- Karen Thumm gave a plug for FATS EndFrogs publication - which has had an excellent response.
- A proposal that the State Forestry sponsor FATS by way of helping to distribute the Frogcall newsletter was briefly discussed. It was agreed that FATS would need to see the terms of such an agreement before voting. **Alison Frappell**

GUEST SPEAKER: Frank Lemckert -
"Green-thighed Frogs at the Bulahdelah Cafe."

The FATS President gave a great talk on breeding sites for these rare froggies and the work that has been done to give some prediction of what will happen to these frogs if a road by-pass is built over or nearby the site. The contracted project, awarded to Frank and his team in November 1996, aimed to identify the frog's distribution, assess the size of the areas populations, determine the frogs breeding habits, determine their post-breeding habitat requirements, discover how distinct this particular area's frogs might be and ultimately provide management guidelines to the RTA.

After much watching of clouds Frank and his team finally managed to be in the area after some heavier rain. It seemed the frogs like to breed in temporary water puddles, such as the side of roads. The team identified only 4 sites in the area that the frogs frequented.

The next step involved attaching radio transmitters to the frogs to find out where they went during the day. It seems they burrow into leaf litter and into low vegetation. The radio transmitters only stay on for some 3 days before the glue wears off the frog's skin. There was also an explanation of the spooling technique - (like a string in a minotaur's maze that spools out behind the frog as it wanders).

The project's recommendation was for setting up ephemeral sites and ponds and for protection of the sites that the frogs currently prefer. **A.F.**



GUEST SPEAKER: Arthur White -
"The Spotted Grass Frog"

Another excellent talk by our Treasurer, please see the accompanying page for information about *Limnodynastes tasmaniensis*.

Arthur ran the Auction and the Kids Auction, after the 5 favourite frog slide session. Amongst the very generous items donated were:

3 Frogs	Chris Waugh
Frog poetry book	Lauren Assender
Frog underwear	Wendy Grimm
Frog Door stop	Margo & Ken Gover
Frog keyring and cap	Anthony Nicholson

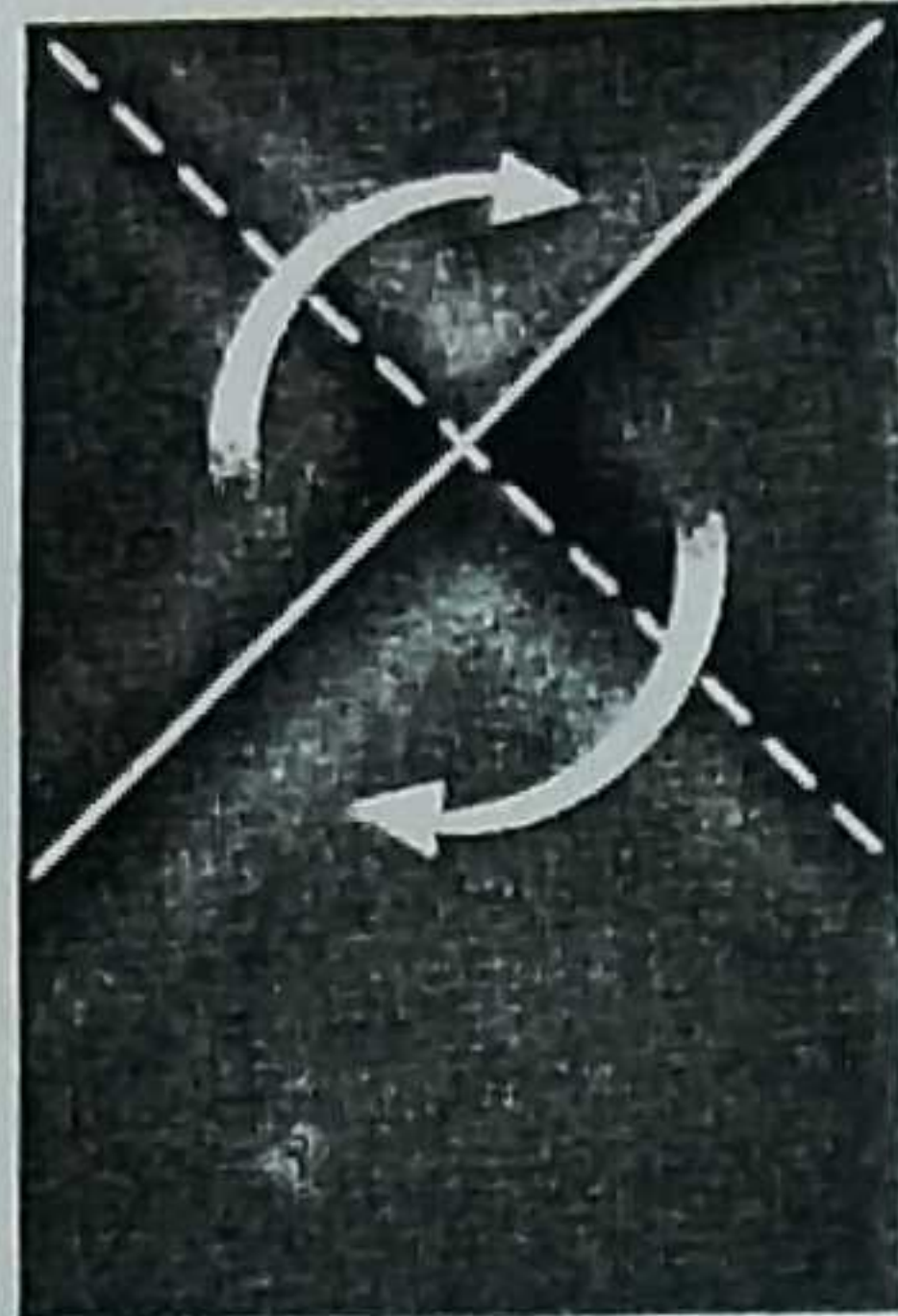
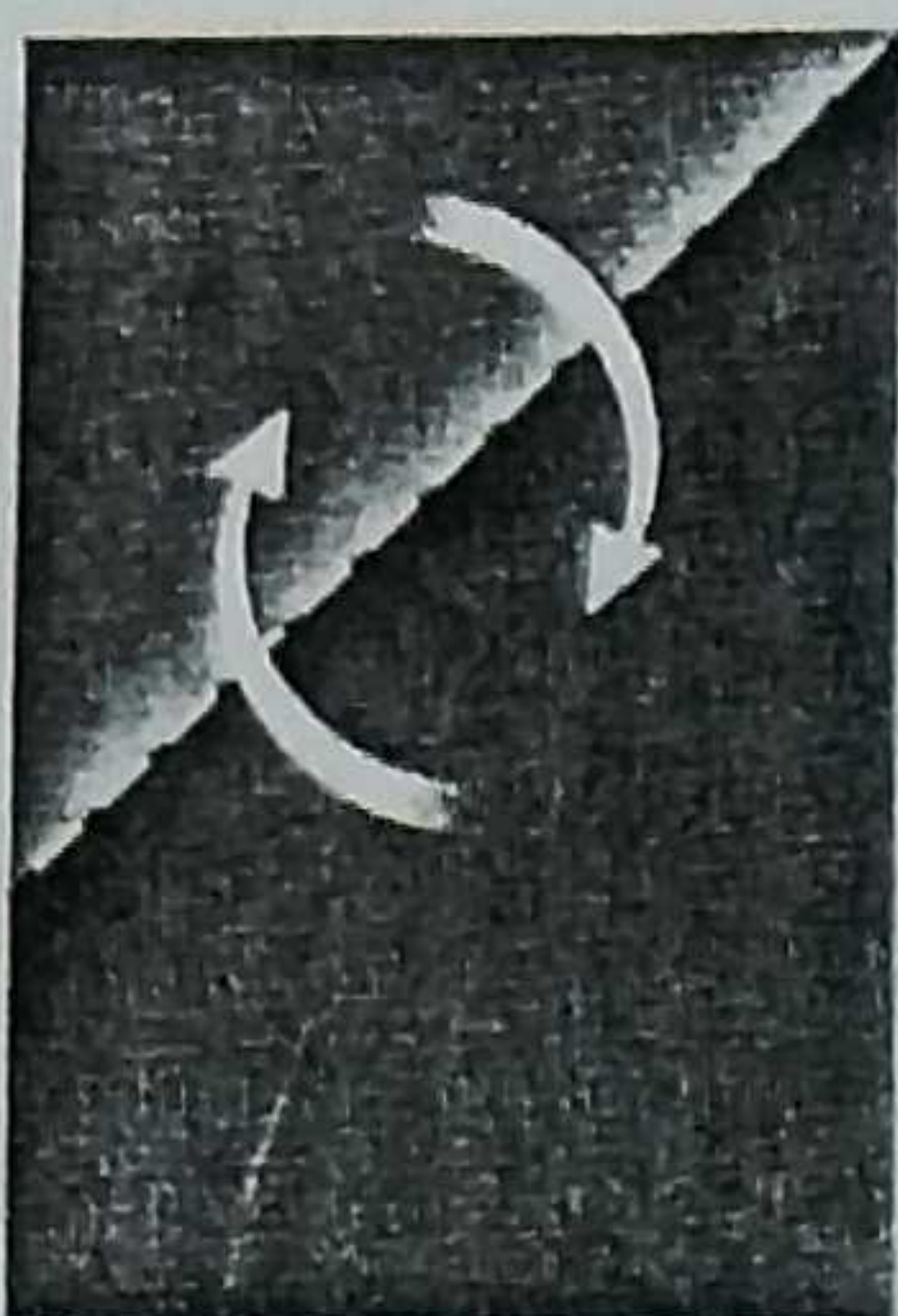
Many thanks to all who donated great frog treasures, including Arthur White and apologies to those omitted from the list above.

Thankyou also to those who bid at the auction.
 We made \$150 at the last meeting. **M.W.**

WIZARD OF ID BY PARKER AND HART

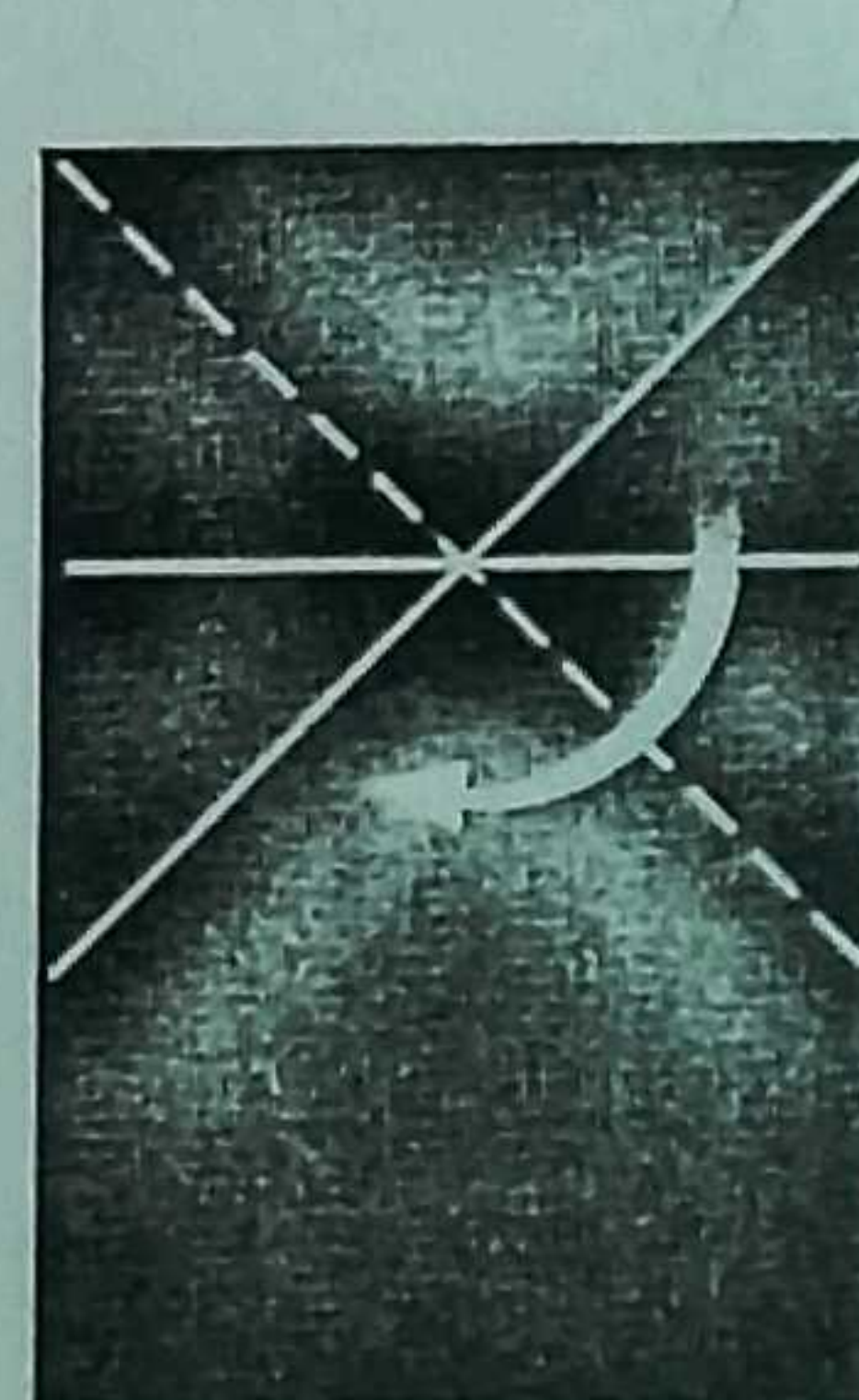
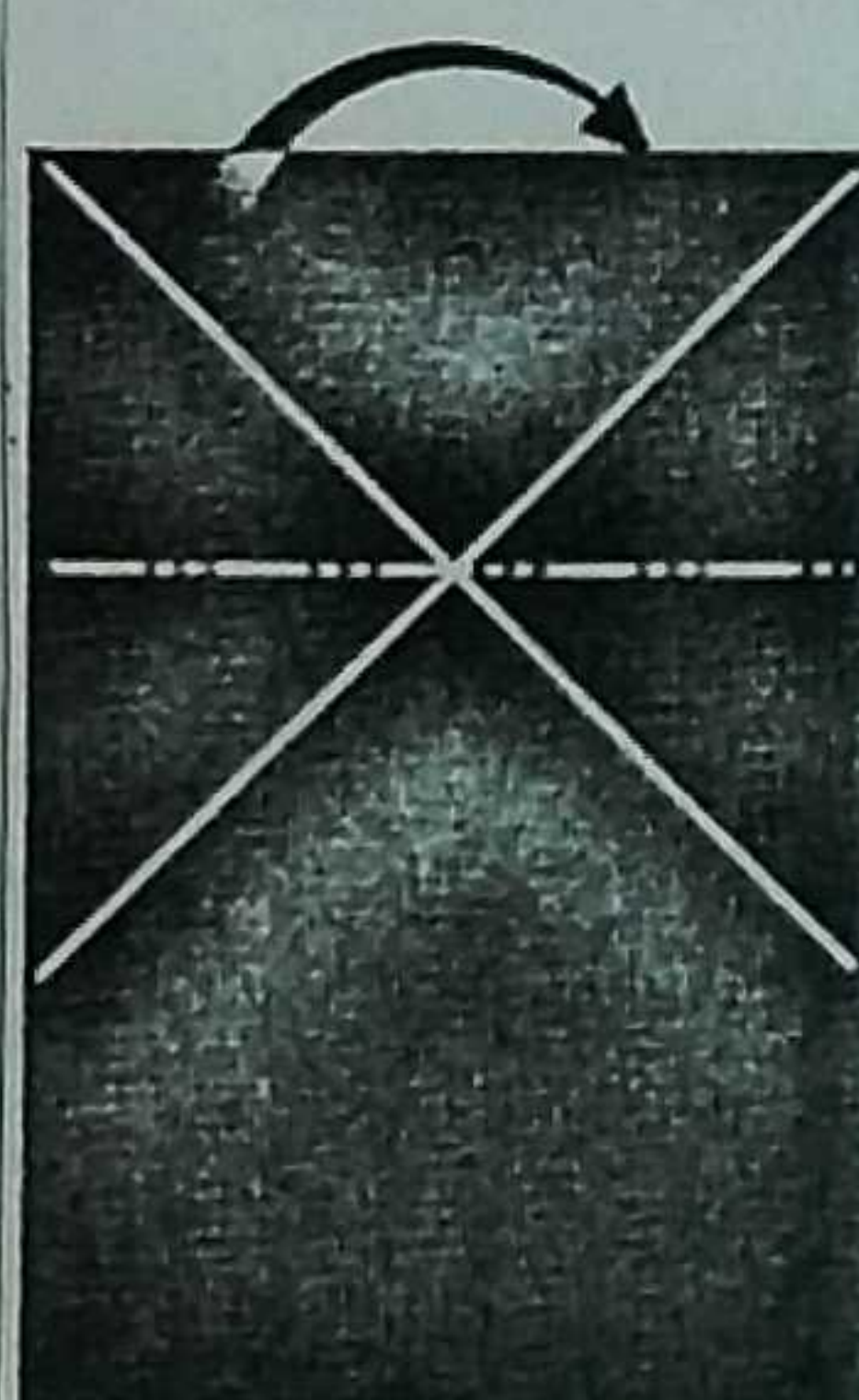


Jumping Frogs!



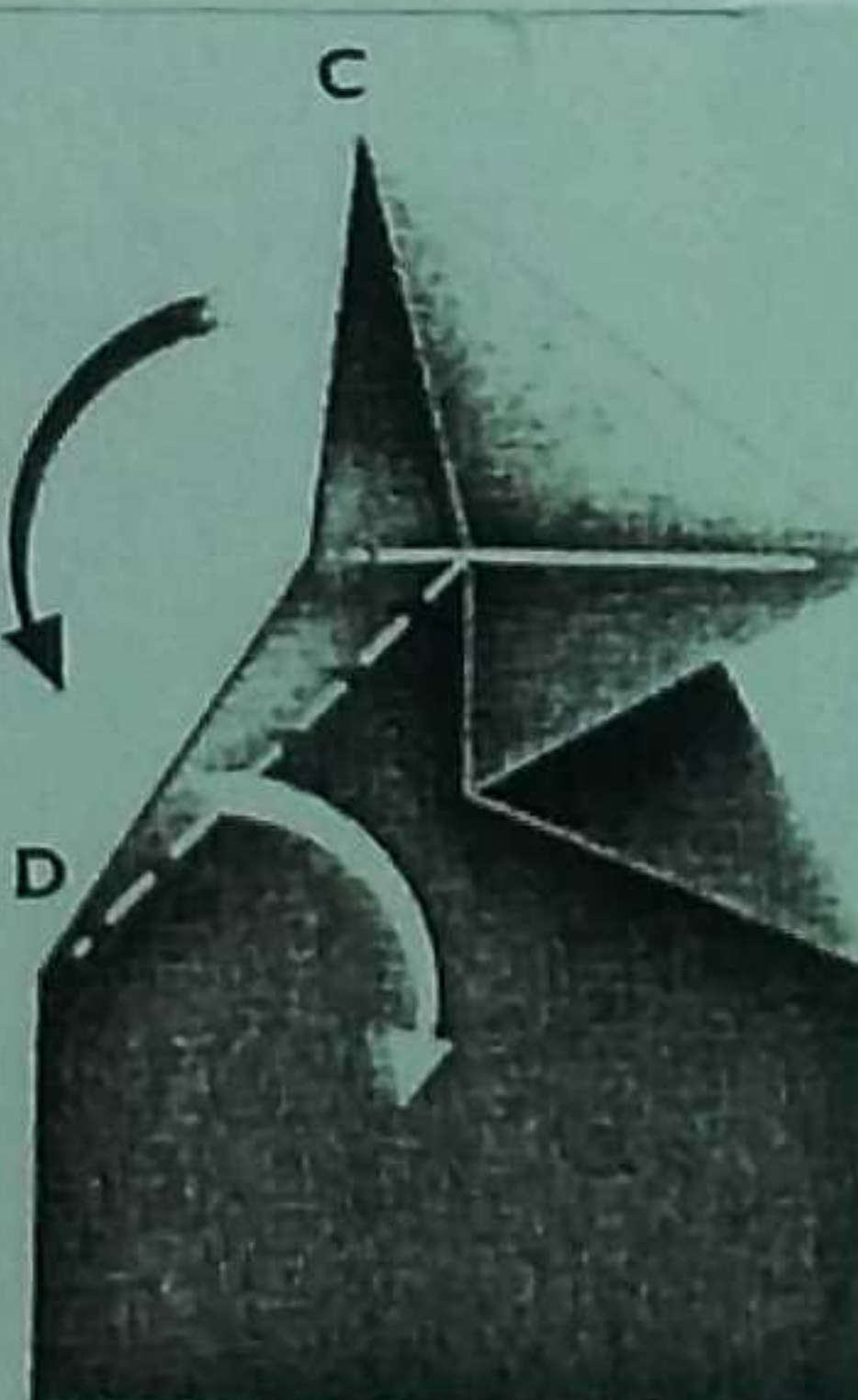
1. Fold the top left-hand corner over to the right hand edge, unfold.

2. Fold the top right-hand corner over to the left hand edge, unfold.



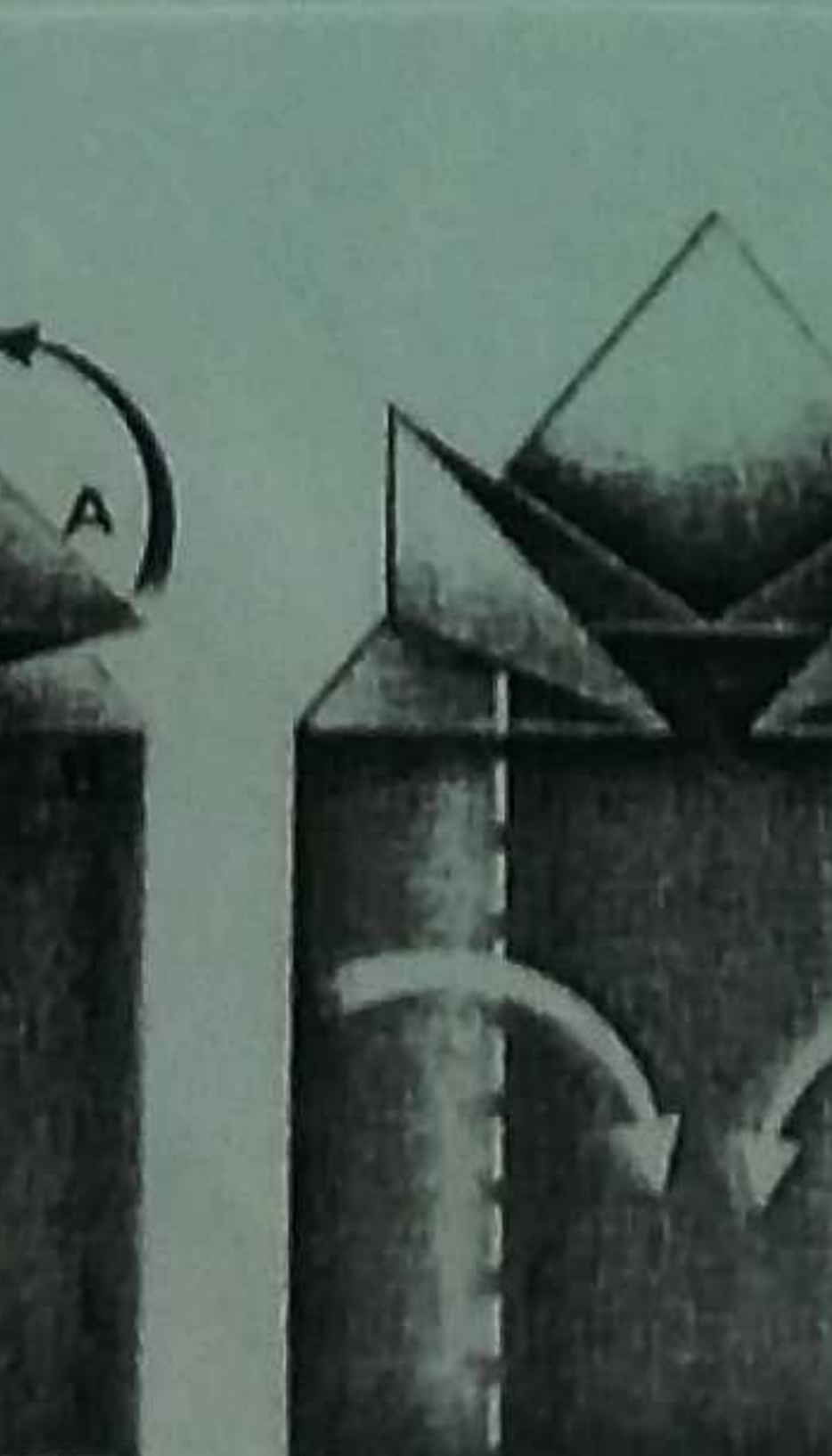
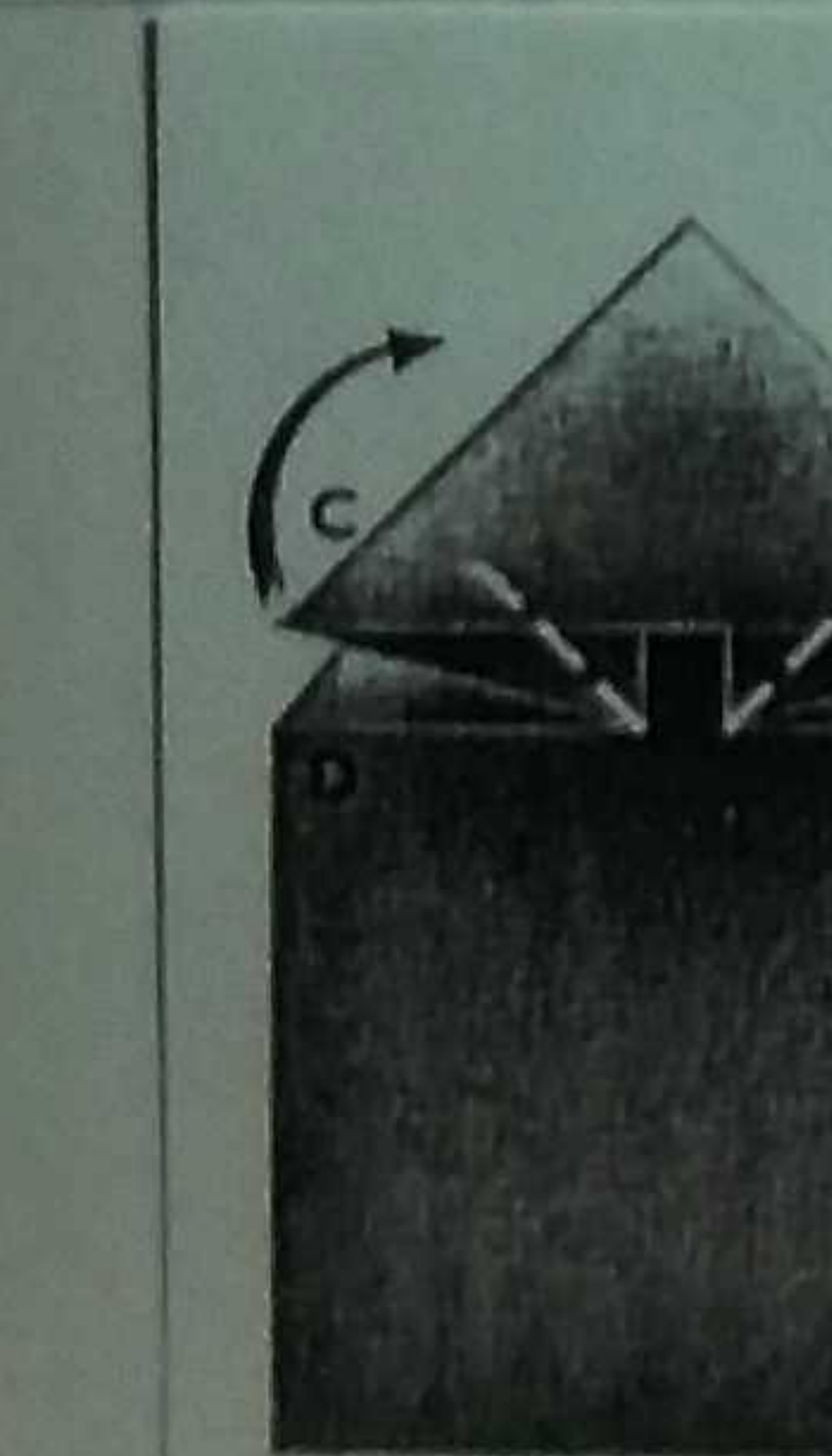
3. Fold the card through the point where the creases cross, unfold.

4. Fold the top right-hand corner back again.



5. Put corner A on top of corner B opening the pocket between A and C.

6. Put C on top of D.



7. Fold corners A and C upwards so your card looks like Step. 8.

8. Fold the edges in to the middle.

Frog Feature : Spotted Grass Frog *Limnodynastes tasmaniensis*

General:

- Wide-ranging species, found in a variety of habitats, from open woodland to highly disturbed pasture land.

Appearance:

- Small to medium sized frog (adult S-V lengths range from 21mm to 47 mm).
- Dorsum olive-green to brown with irregular darker spots or blotches.
- Usually a mid-vertebral stripe present (can be yellow, white or pink)
- Belly white and smooth

Sexual Differences:

- Male frogs slightly smaller (S-V 31-42 mm) than females (S-V 32-47 mm). Males are sexually mature at a smaller size (S-V length of 21 mm. for males whereas females do not mature until they reach 23 mm.)
- Female frogs develop distinctive flanges on the second and third fingers during the breeding season. These flanges are used to scoop air bubbles to form the foam nest around the fertilised eggs.
- Male frogs may develop some yellow discolouration under the throat in the breeding season. Male frogs also develop brown nuptial pads on the tops of the first and second fingers.

Mating Call:

Fast, rapidly repeated call. A machine-gun like series of uk-uk-uk-uk-uk-uk-. In southern NSW (and Victoria) the call is shortened to one or two uks.

- Male frogs call from the edge of water, such as in ditches, flooded pasture. The males are often partly concealed by vegetation when calling and will continue to call from the same spot even after successful spawning has taken place.

Reproduction:

- Male calling season can be any time between August and March.
- Eggs are laid in a foam nest with between 88 and 1360 eggs in each nest.
- Eggs hatch after three days but the young will remain as tadpoles for between 3 to 5 months.

Tadpoles:

- The tadpoles are uniformly dark grey/brown and are herbivorous.
- Tadpoles can reach a large size (up to 46 mm total length).
- Tadpoles have the following dental formula:

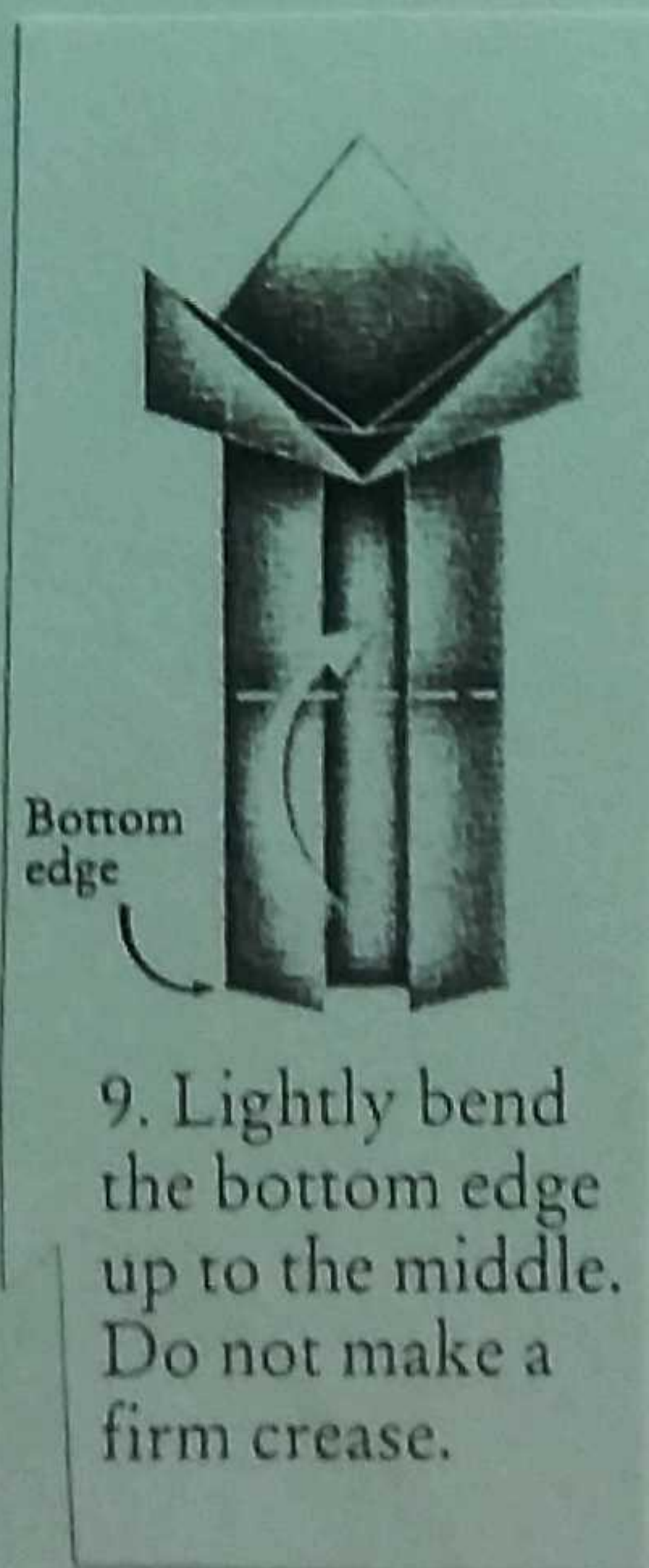
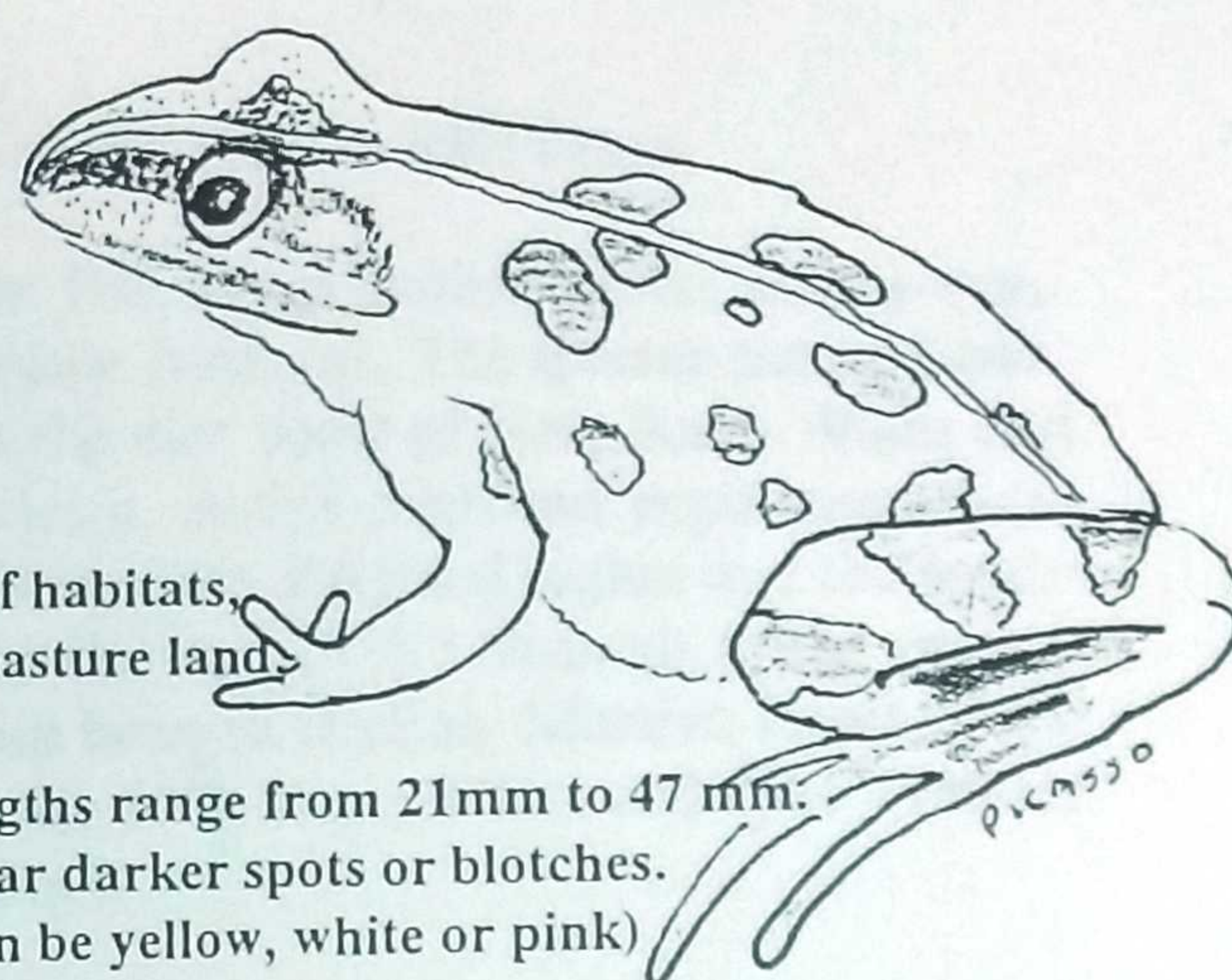
$$\begin{array}{ccc} & 1 & \\ 4 & & 4 \\ \hline 1 & & 1 \\ & 2 & \end{array}$$

Distribution:

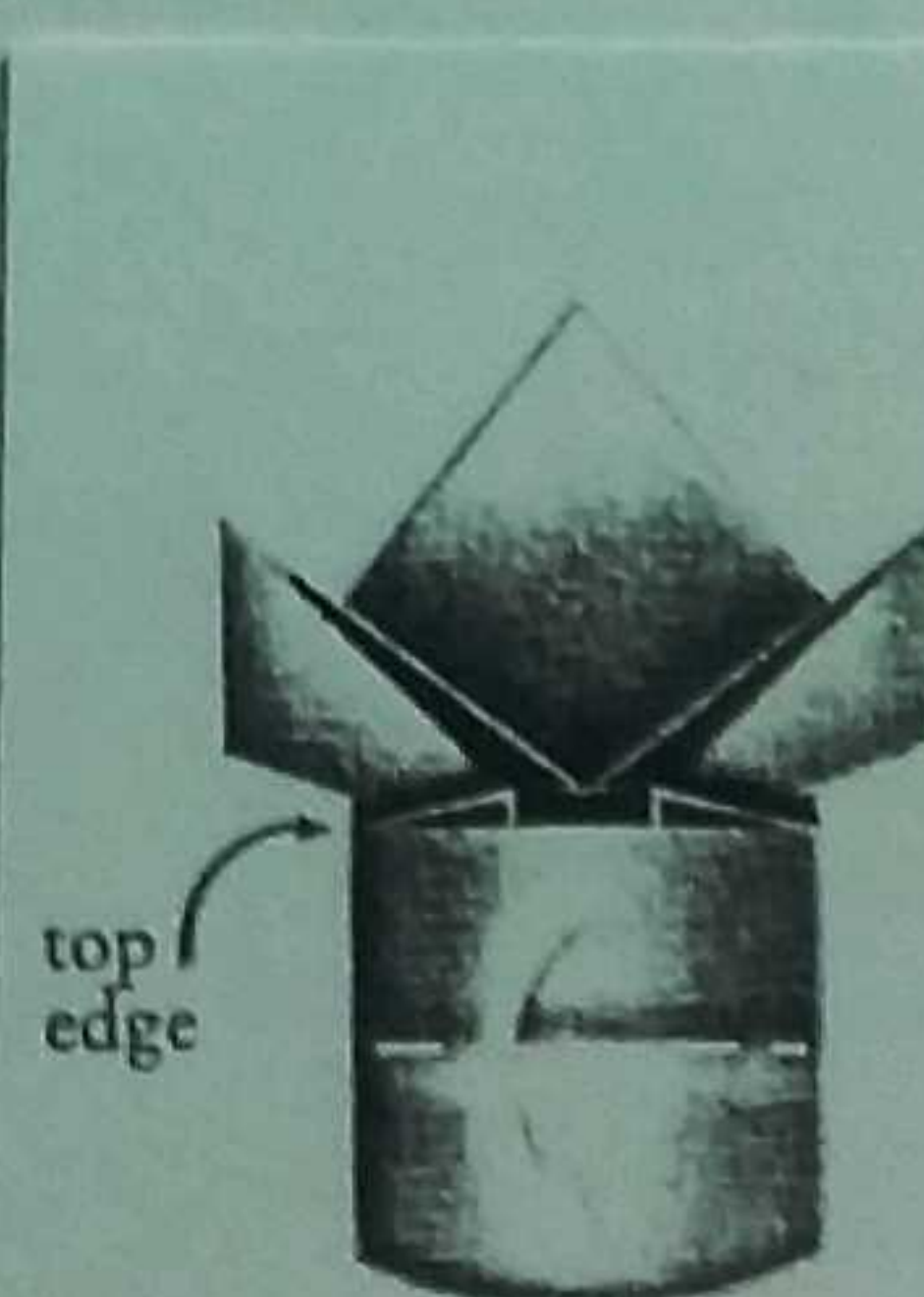
- Eastern Australia, from Townsville south to Tasmania.
- Species is mainly coastal but is more inland in the southern half of its range.

Conservation Status:

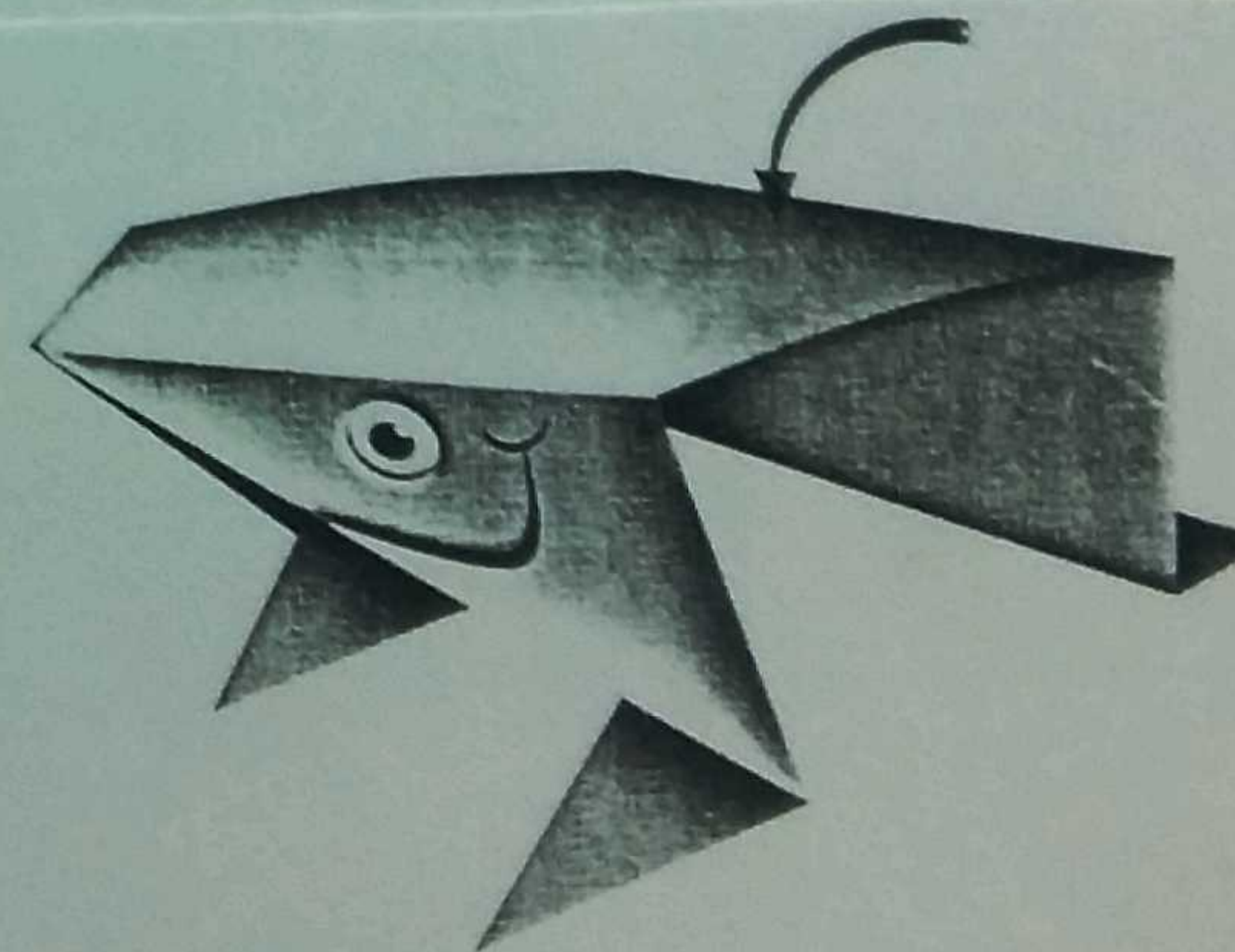
- Secure over most of its range.



9. Lightly bend the bottom edge up to the middle. Do not make a firm crease.

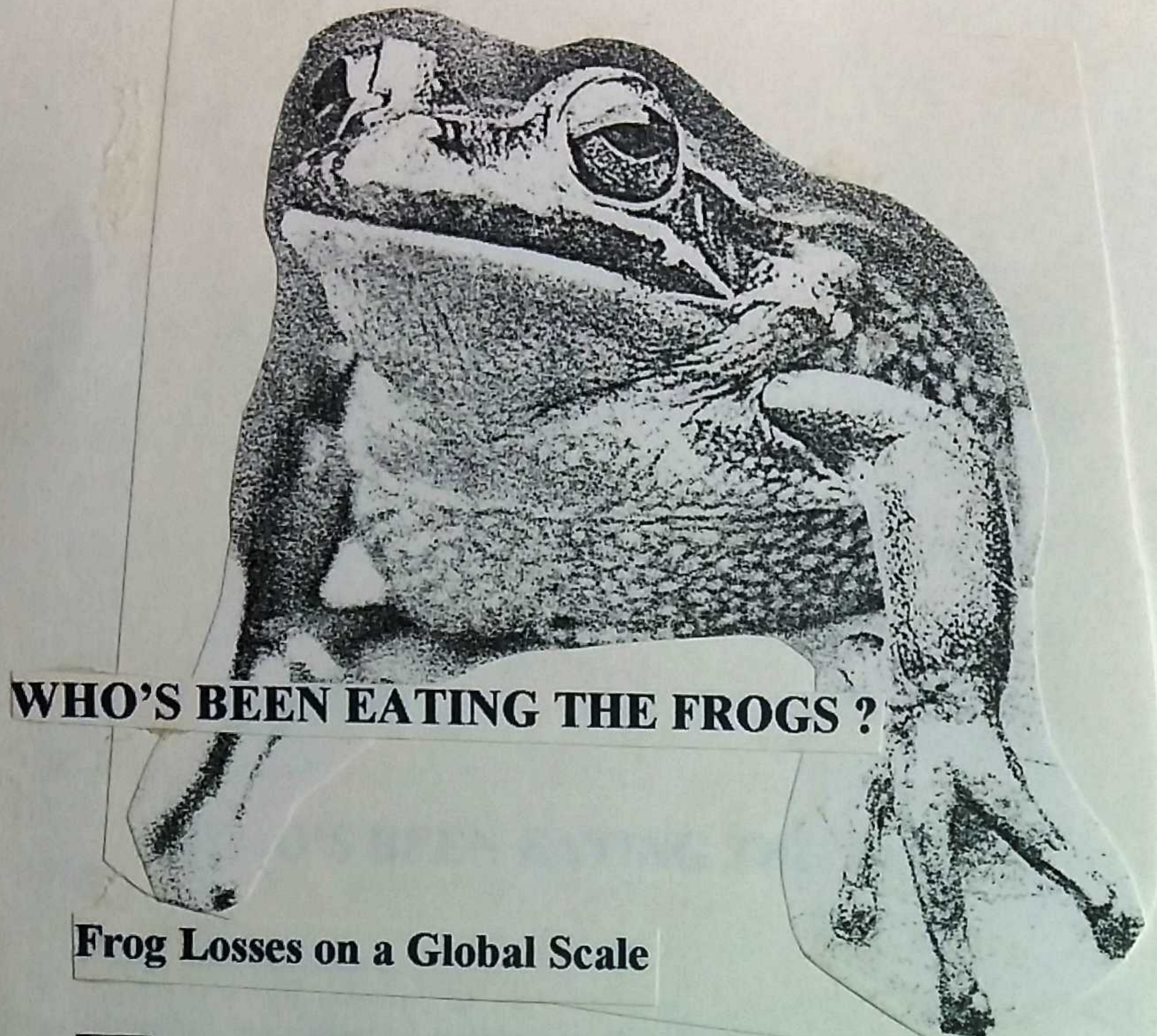


10. Lightly bend the top edge down to touch the previous bend. Do not make a firm crease.



11. Flip the card frog over – your 'frog' is finished! Rest your finger on the frog and slide it off the back. Your frog will jump forward.

You will need some thin card about 5cm x 8cm.



WHO'S BEEN EATING THE FROGS ?

Frog Losses on a Global Scale

Frogs are disappearing world-wide. This is not scare-mongering but an indictment of planetary abuse. The phenomenon of the global decline of frogs has received headlines since it was first broadcast to the general community in 1985. At that time scientists had begun to collect information from various parts of the world describing frog losses. The early reports were haphazard and not based on rigorous surveys and so they were initially downplayed. Over the next 10 years this was to change. Objective data was collected from every continent which confirmed the worst; every continent that had frogs had lost some part of its frog fauna (see White 1995a for a discussion of these events).

Various causes were found for the frogs losses; in North America and Europe "acid rain" was found to be a major factor in frog declines. The sulfur dioxide gas produced from car exhaust, coal and oil fires combined with water vapour in the air to form weak sulfuric acid. This acid caused marble statues to dissolve, cement in brickwork to disintegrate, trees to lose their leaves and forests to die, but worse, it acidified creeks and streams killing the aquatic life. Coupled with this was the contamination of waterways by agricultural chemicals, such as pesticides and fertilisers, which causes malformation of larval aquatic insects, fish fry and tadpoles. Other cases were discovered where pollution of waterways by heavy metals, detergents and petrochemicals had also decimated frog populations. Frogs are known to be particularly sensitive creatures. Their skin is highly permeable and instantly responsive to most pollutants. For this reason, ecologists in the 1960's had speculated that susceptible organisms, like frogs and aquatic insects, would become the "world's canary" and signal the deterioration of the global environment. Unfortunately, their prediction is being borne out.

The scientists who were assessing frog declines also discovered some apparently unexplainable frog losses. Where waterways had become polluted or significantly altered, the cause of frog declines were clear. However, a number of cases emerged where frog declines had taken place with no apparent cause. This was to become the unsolved mystery in global frog declines. Frogs were dying in remote jungle rainforest, in high alpine areas and in pristine bushland. Australia has lost frog species to this "mystery" factor.

Case Study: Green and Golden Bell Frogs

Green and Golden Bell Frogs *Litoria aurea* were a common species in eastern Australia. The species ranged from Byron Bay, down the east coast of New South Wales and into northern Victoria. A few highland populations were known from the lower New England region and the southern Tablelands. In the late 1950's through to the present day the species has been in decline. Massive losses of the frogs occurred in the 1960's (see White and Pyke 1996 for details of the decline).

It was not until the 1990's that intensive survey efforts were made to determine the extent and the cause of the Green and Golden Bell Frog declines in New South Wales (see White 1995b). These studies revealed that three factors were implicated with the loss of this species:

1. Habitat destruction: many of the coastal lagoon and wetland habitats that the species had colonised had been filled in, reclaimed or altered to a point where they were no longer usable Bell frog habitat.
2. "Global mystery factor": all of the populations of Green and Golden Bell frogs above 150 metres above sea levels were eliminated by this factor (Green and Golden Bell frogs occurred at elevation up to 1,000 metres a.s.l). The pattern of loss of highland populations was in accord with the pattern of loss of frog populations elsewhere, including in wet tropic rainforests of North Queensland, where six species have gone to extinction.
3. Predation by an exotic carnivore.

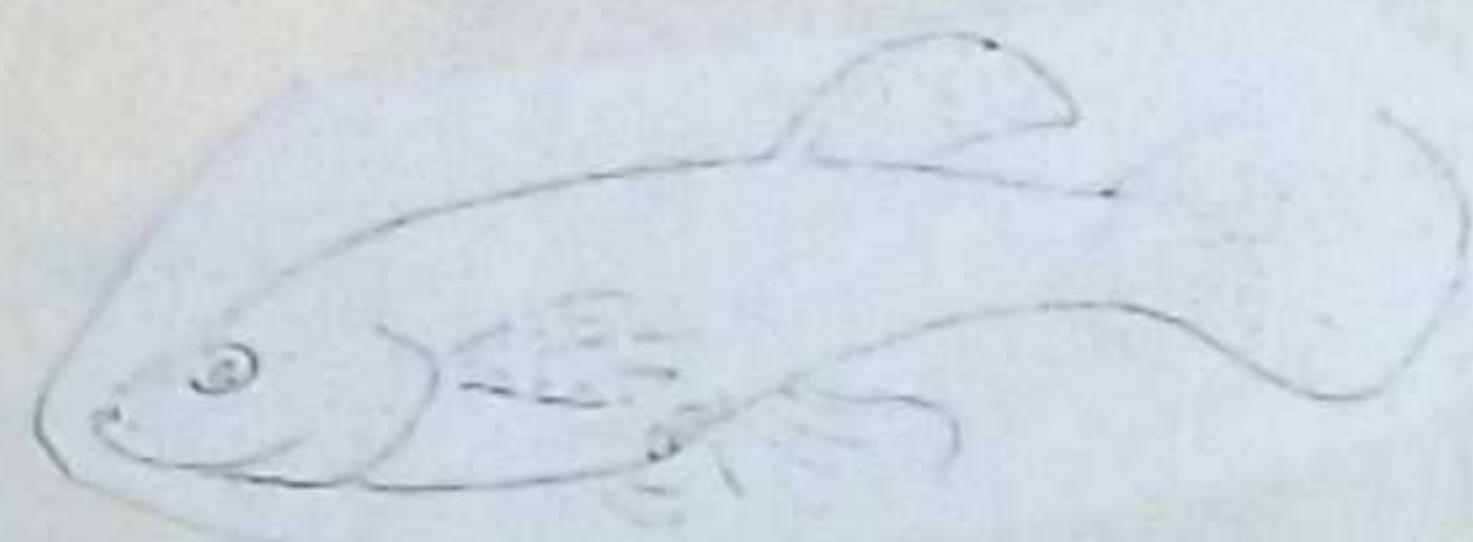
It is the third component that the rest of this article is devoted.

One part of the investigation of the decline of Green and Golden Bell frog involved revisiting all known Bell frogs sites in order to determine whether the sites still contained potential habitat for the frogs. If the sites had been significantly altered, the demise of the frogs could easily be due to the habitat being rendered unsuitable in some way. The task was to appraise sites and to determine how sites had changed. In a number of cases there had been major changes in land use of the area resulting in either complete loss or severe modification of the frog habitat. However, in a number of cases, the habitat still appeared to be frog friendly but yet there were no frogs !

The intact but frogless sites became the focus of research. Each of these sites was reinvestigated in order to seek finer detail ; perhaps there had been habitat alteration but it was not immediately apparent. The research delved into the history of each site, persons familiar with the site in years gone by were contacted and asked to compare the present and past site features. From this data, a consistent pattern emerged; over 90% of the sites now contained the exotic Plague Minnow (also known as " Mosquito Fish") *Gambusia holbrooki*.

Gambusia

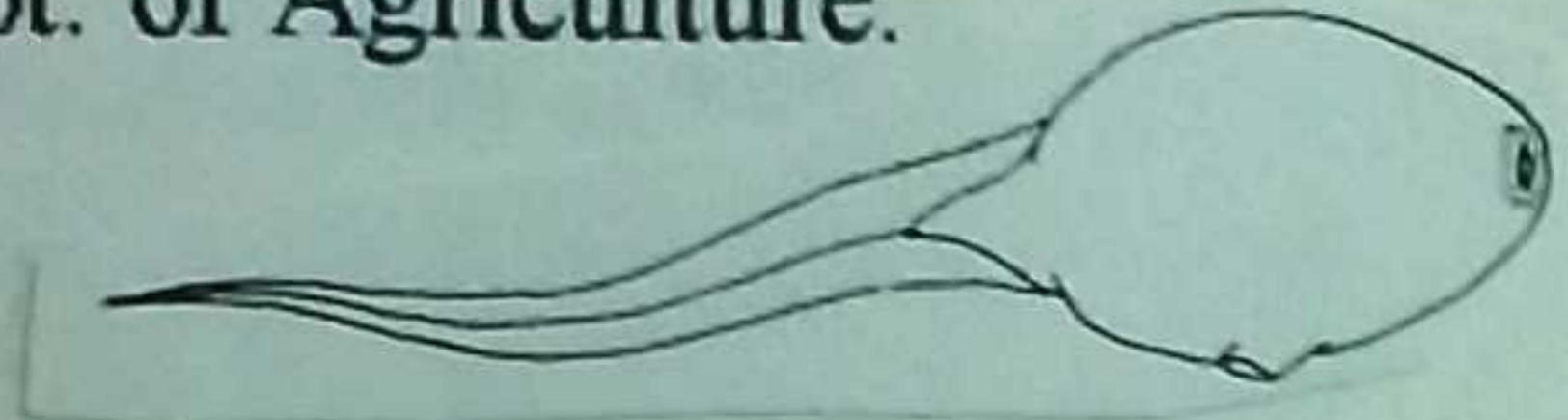
Gambusia are small, South American Fish (see Figure 1). They resemble some of native gudgeons but can be readily distinguished by the prominent second dorsal fin and their capacity to form dense congregations in waterways. *Gam-*



Gambusia have been imported into Australia a number of times, in each case the reason given was to control mosquitoes. The fish does this by feeding on wrigglers. The first releases took place in New South Wales in 1925 (Myers 1965). Large numbers of fish were moved around New South Wales during the Second World War in response to fears of the spread of malaria. There was a constant flow of troops moving between Sydney, Brisbane and New Guinea. The fears were not groundless as malaria had already been detected in northern Australia and a few cases had been detected in Brisbane. Health authorities undertook a program of mosquito control by spreading *Gambusia* through waterways that they were not already in, and in some cases, layering kerosene over swamps and still water sites in order to suffocate the wrigglers.

Even after the war years, *Gambusia* were recommended to pastoralists as a dam-stocking fish as a means of preventing mosquito outbreaks. It was not until the 1980's that government agencies reacted to the concerns of native fish biologists and some frog biologists to cease recommending the spreading of this fish. Today, *Gambusia* is classified as a pest species by the NSW Dept. of Agriculture.

Gambusia and Frog Losses



Once the connection between *Gambusia* and Green and Golden Bell Frog declines had been made, the next task was to determine how such a small fish could cause such extreme ecological damage. Controlled laboratory and field experiments testing *Gambusia*'s frog-predation abilities were not commenced until 1994. In that year, Cameron Webb (an Honours student from Macquarie University and a FATS member) undertook to test the fish's ability to prey on the tadpoles of the Striped Marsh Frog *Limnodynastes peronii*. In this study, it was found that *Gambusia* attacked *L. peronii* tadpoles, the level of predation was related to the density of fish compared to the tadpole density, tadpole size and the level of hunger in the fish. The study also found that *Gambusia* did not necessarily eat the tadpoles that they killed (Webb and Joss 1997).

In 1995, Leah Morgan (an Honours student from the University of Wollongong and not a FATS member) tested *Gambusia* predation on the tadpoles of tree frog species. She used Green and Golden Bell Frogs and Bleating Tree Frog *Litoria dentata* tadpoles for her experiments. *Gambusia* again attacked and killed the tadpoles. Her experiments revealed that tadpoles may be able escape predation by *Gambusia* if there is sufficient aquatic vegetation to conceal them from the fish (Morgan and Buttemer 1996).

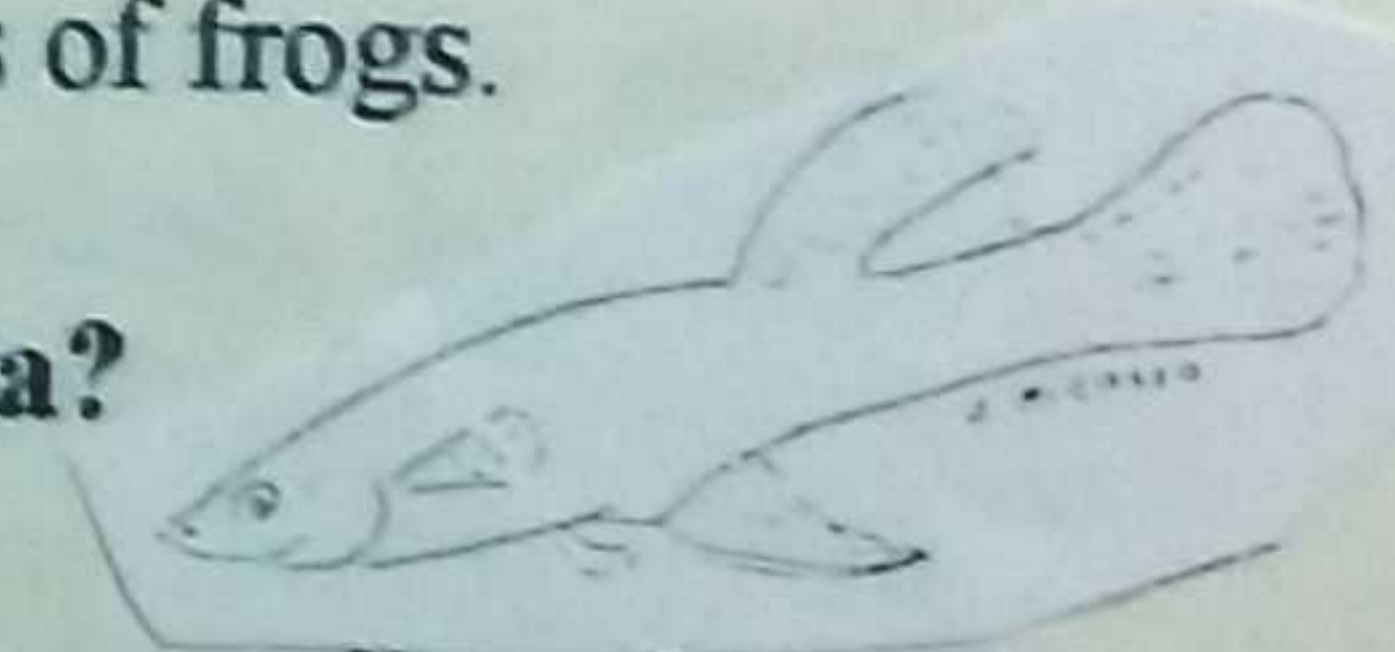
In laboratory experiments conducted by myself and Dr. Graham Pyke of the Australian Museum, it was further learned that *Gambusia* have a variety of predation strategies that are used to immobilise and kill tadpoles. When *Gambusia* are in high numbers they form predatory schools which effectively eliminate tadpoles from the local environment. There was no hard evidence that *Gambusia* was

able to discriminate between different types of tadpoles (i.e. selected their prey). There was a suggestion that some tadpoles were more susceptible to predation because of their swimming and feeding behaviour. In general, bottom-feeding tadpoles appeared to be less-vulnerable to predation than surface-feeding tadpoles. Various stages of the life cycle of Green and Golden Bell frogs made them especially susceptible to *Gambusia* predation; namely during the first 48 hours post-hatching (White and Pyke, unpublished data).

Gambusia's impacts have not been confined solely to frogs. Studies on native fish species in Australia have revealed that some species have been totally eliminated from areas where *Gambusia* has become established (Legler Moss 1988). Many of the small native gudgeons, blue-eyes, rainbow fish and other species have suffered in the wake of *Gambusia* (Myers 1965). One study has found that native fish can compete with *Gambusia* under natural circumstances but when waterways are degraded or disturbed the exotic species gain ascendancy and displace the native fish (Hurlbert *et al.* 1972). On a world-wide basis *Gambusia* are responsible for the decline of 35 fish species (Lloyd 1989).

Well if *Gambusia* is so voracious why haven't other frogs declined with the spread of these fish? The answer is that some have. Recent surveys by Cameron Webb (Webb and Joss 1997) revealed that in western Sydney, there was a strong correlation between low frog diversity and the presence of *Gambusia*. Certain frogs appeared to have suffered more than others. In general, tree frog species were more seriously impacted by *Gambusia* than the ground frogs. This selectivity may also be due to the behavioural differences of the tadpoles of these two groups of frogs.

What can be done to restrict Gambusia?



Very little, at present. *Gambusia* is still spreading through the rivers and creeks of eastern Australia and their impacts will be amplified whenever these creeks are disturbed (naturally or as a consequence of human activity). We have not seen the worst effects of *Gambusia* yet.

Gambusia have been a highly studied species (particularly in the USA). They have been a favourite of researchers because they are easy to maintain in laboratory conditions, have high tolerances to heat, salinity and various water-soluble compounds and are prolific breeders (see Moyle and Cech 1982). But these very features are the ones that make *Gambusia* such a virulent pest species. No features has been found that may indicate a way to limit the spread of these fish. No detailed research has been initiated to try to find an organism that could biologically control *Gambusia*.

It is true that *Gambusia* can be eradicated by the use of poisons in small areas (such as farm dams) but the elimination of the species does not seem possible. At best we

would like to restrict *Gambusia* and minimise its impacts. Here we may be able to do some good. *Gambusia* is favoured by disturbed or polluted waterways, we need stronger protective measures for our creeks and streams. Attitudes towards the disposal of water-soluble wastes need to change. The active translocation of *Gambusia* (e.g. for mosquito control) must cease. Areas of high conservation value need to be isolated from the threat of *Gambusia*, and finally, *Gambusia* needs to be listed as a threatening process on the NSW Threatened Species Conservation Act 1995. The latter action means that activities that could lead to the spread of *Gambusia* into areas where endangered and susceptible fauna occurs may be legally challenged and stopped.

The listing of *Gambusia* as a threatening process is an undertaking that FATS should consider. The evidence to support the nomination of *Gambusia* is now available and the Society can be proactive in the protection of frogs through this means.

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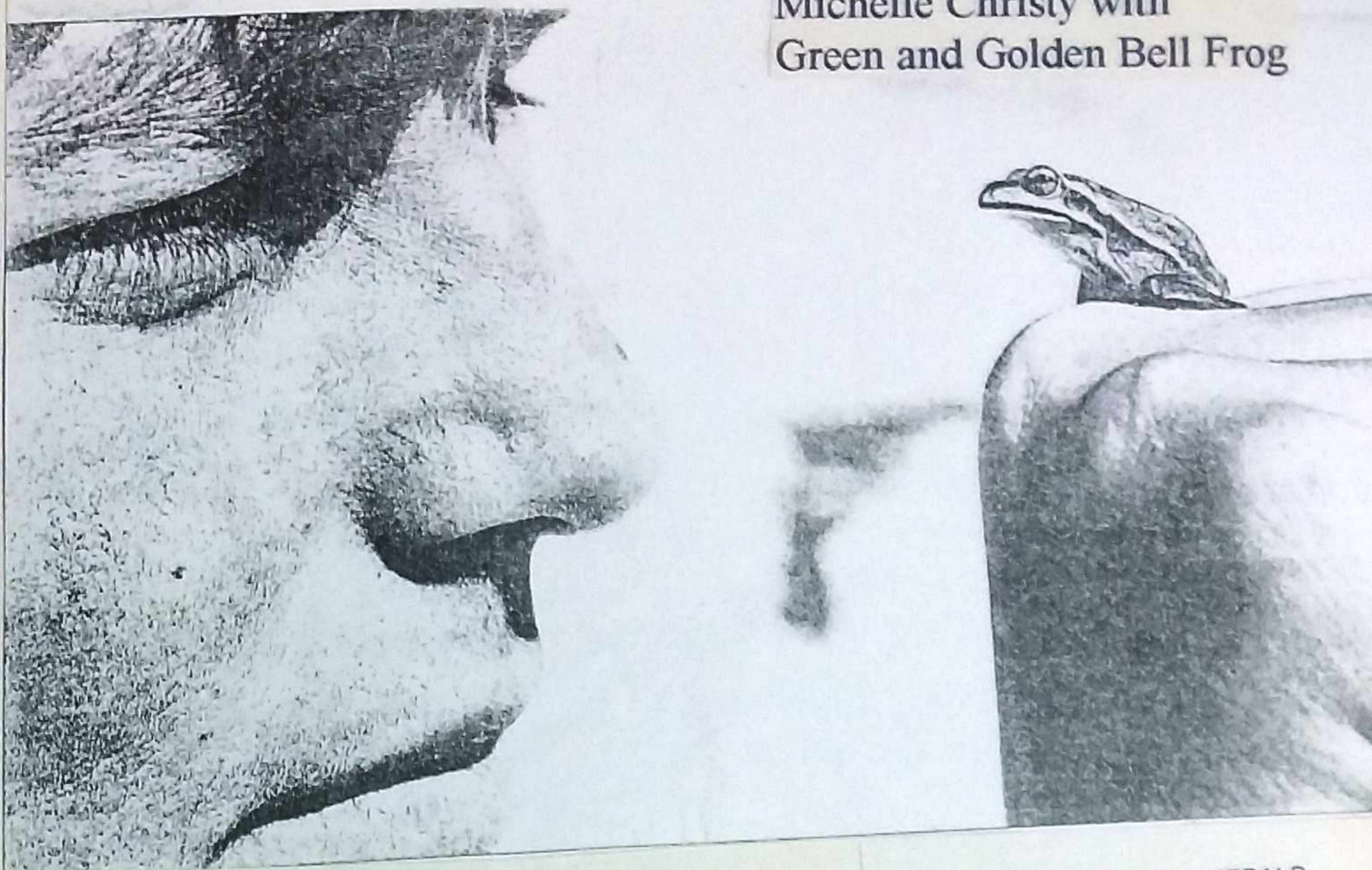
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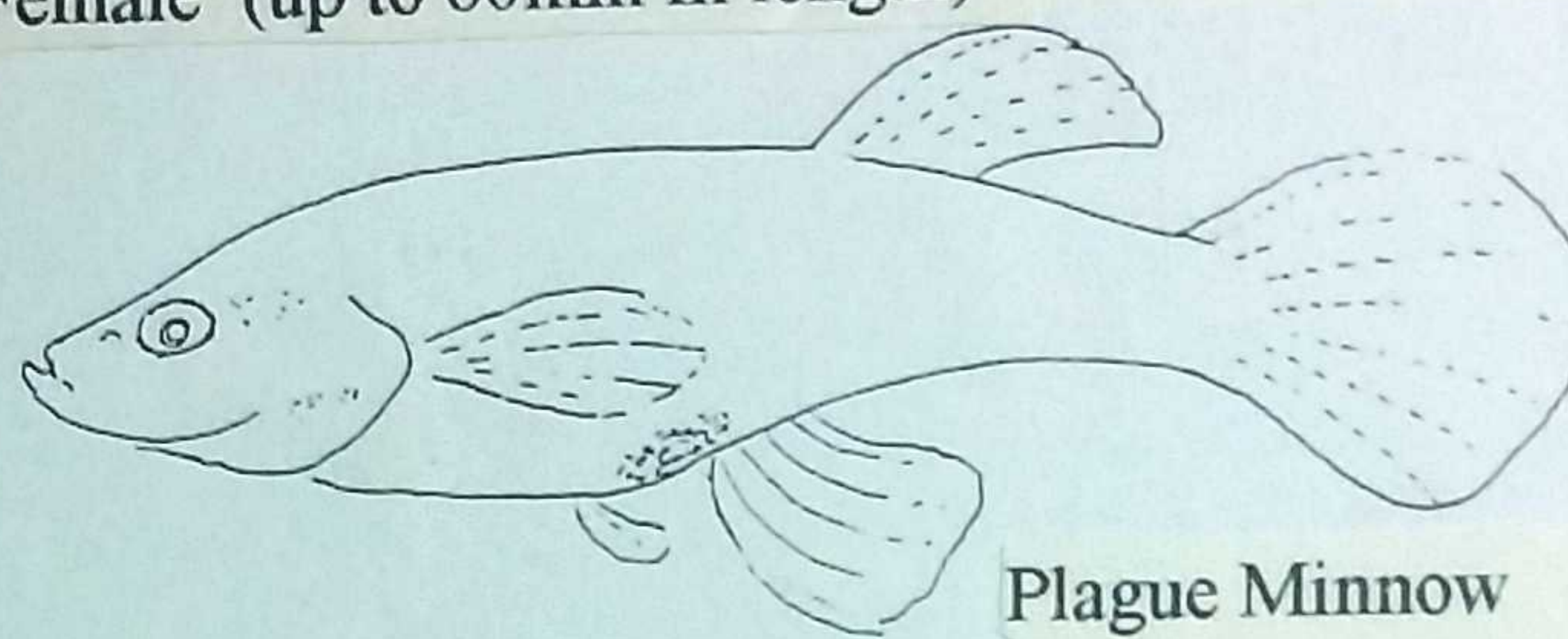
Arthur White

Michelle Christy with
Green and Golden Bell Frog

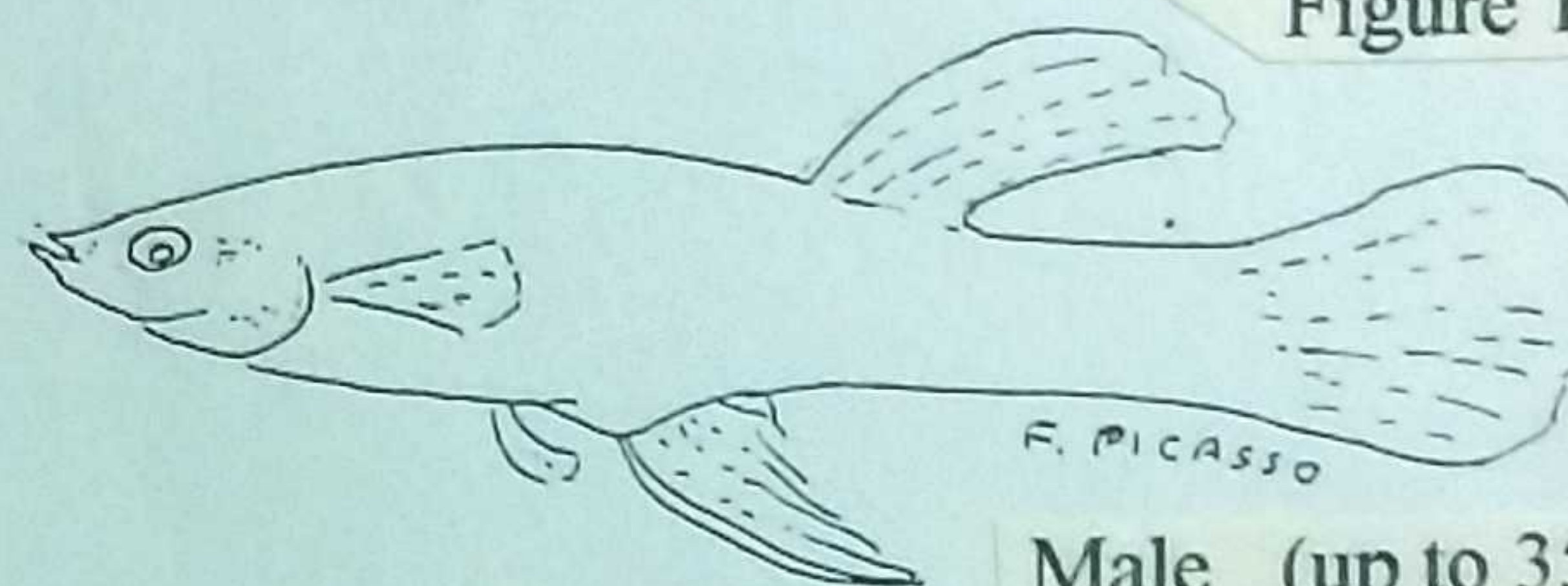


THE SYDNEY MORNING HERALD
SATURDAY, AUGUST 23, 1997

Female (up to 60mm in length)



Plague Minnow - Mosquito Fish
Gambusia holbrooki
Figure 1



Male (up to 35mm in length)

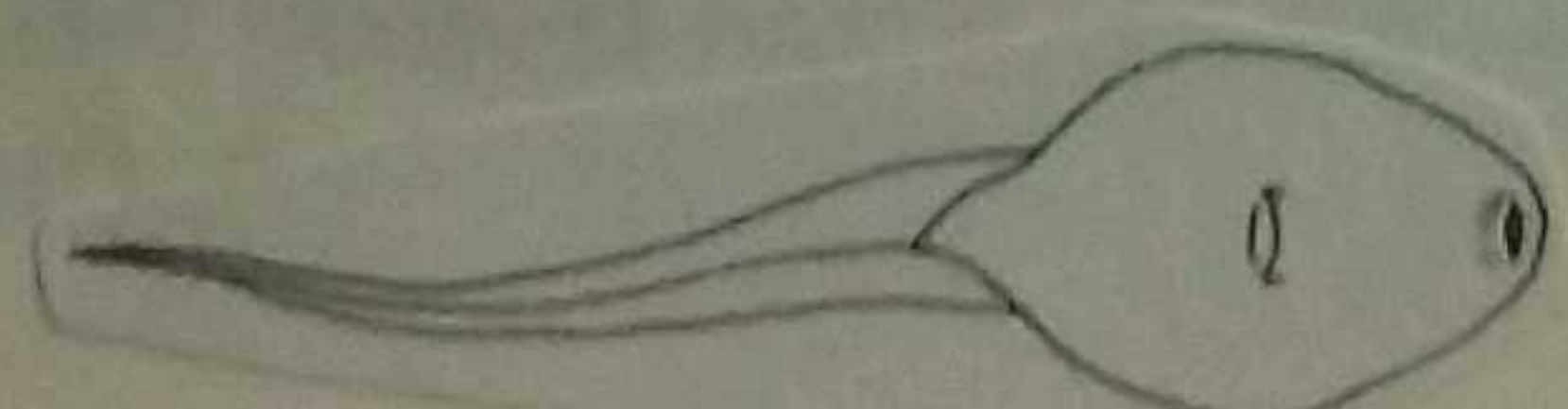
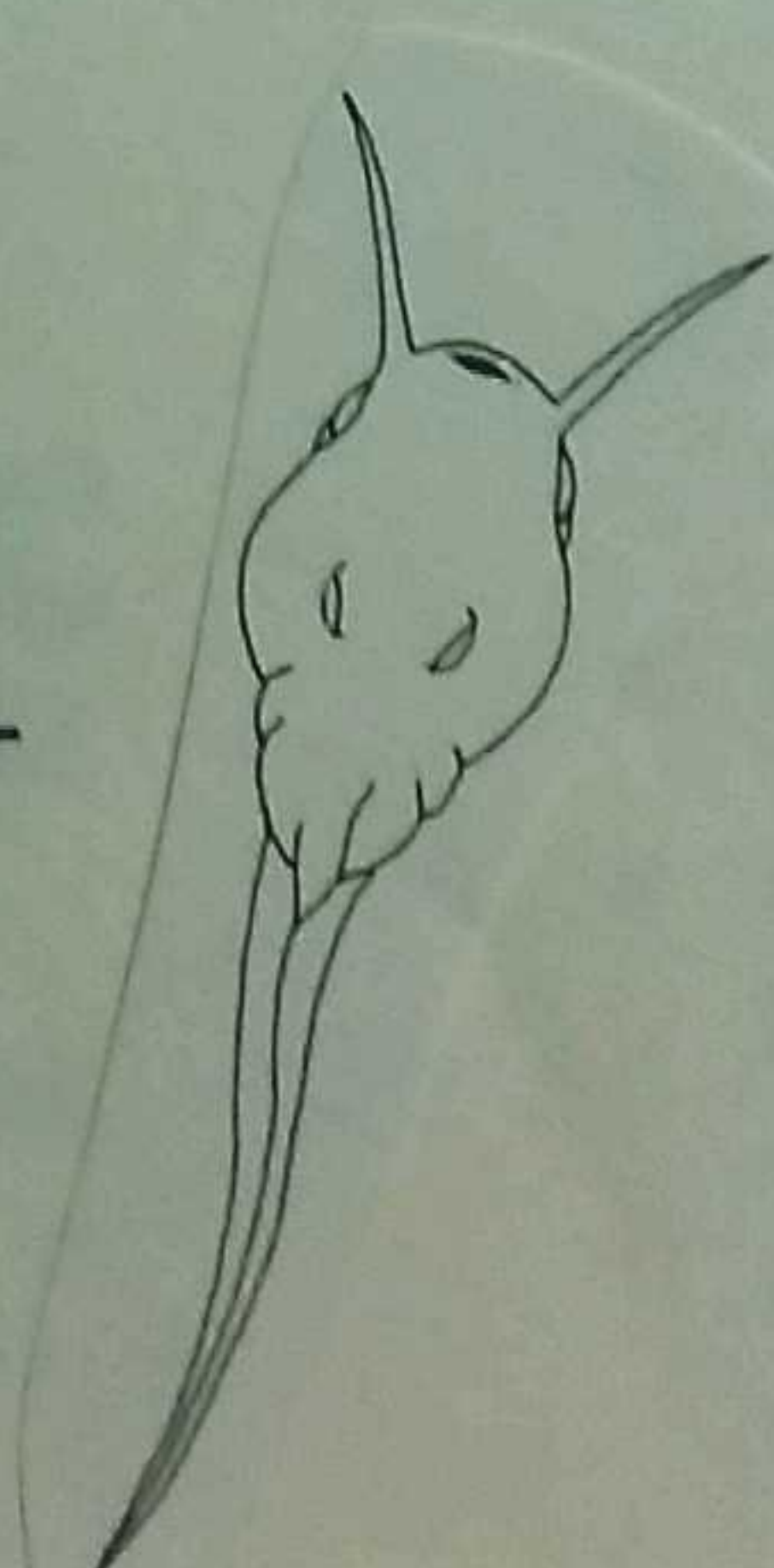
WOLLEMI WILDERNESS UNDER THREAT

Wollemi National Park has always been presented to us as a wilderness area.

Now however, NPWS have a proposed management plan out to include only half the Park as a wilderness. (A declared wilderness has a greater degree of protection from presumably non-compatible interests.) Comments are invited by Friday, 26 September.

Pressure from the 4WD groups, public land users groups, outdoor recreation groups and other lobby alliances may result in a further increase of 'their' share of the Park. The Wilderness Society (ring 02-9552 3255 for info), the National Parks Association and other environmental groups are proposing that much more than 50% of the park should be protected as a wilderness. If you want to lend a hand in the wrangling, to propose your own percentage, for or against the thin end of the wedge and "death by a thousand cuts", write before 26 September to:

Wollemi Contact Officer
NSW NPWS
Central Region Office
PO Box 95
Parramatta 2124



LICENSING UP DATE AT AHS MEETING

Jeff Hardy, the Manager of Licensing at NSW NPWS, was invited by the Australian Herpetological Society to speak at their August meeting about the proposed system for reptile and amphibian licences:

- There were 8151 letters of response unconditionally supporting the proposals, plus 76 giving support in principle but with suggested alterations. (Some of these responses were about either frogs or reptiles, others were about both in the same letter.)
- There were 75 responses during the public review period which opposed the proposals.
- In early July the Service sent a submission and detailed report to the Minister, asking for the licensing systems to be endorsed as amended and for a total amnesty period of one month. (The Minister has not approved yet and is overseas until the middle of September.)
- The amendments are mostly in the frog species lists. A Class 2 category has been erected, to make it comparable with Victoria and South Australia. (Class 1 are the common and Class 3 the uncommon frogs.)
- The lists are "final", but reappraisal will be consultative once the system is introduced.
- All "new" frogs that are not on the list go initially into the Prohibited category.

- Twenty frogs switched categories:

<i>Geocrinia laevis</i>	from 3 to 2
<i>Mixophyes fasciolatus</i>	3 to 2
<i>Paracrinia haswelli</i>	1 to 2
<i>Pseudophryne bibronii</i>	1 to 2
<i>P. coriacea</i>	1 to 2
<i>P. dendyi</i>	1 to 2
<i>Litoria aurea</i>	Prohib. to 3
<i>L. booroolongensis</i>	1 to 2
<i>L. brevipalmata</i>	P to 3
<i>L. pearsoniana</i>	1 to 3
<i>L. raniformis</i>	P to 3
<i>L. revelata</i>	1 to 3
3 <i>Kyarranus species</i>	P to 3
<i>Litoria nannotis</i>	3 to P
<i>L. rheocola</i>	3 to P
<i>L. subglandulosa</i>	3 to P
<i>Nyctimystes dayi</i>	3 to P
<i>Pseudophryne australis</i>	3 to P

- (The reptile people had only two species moved between lists, but their Class 2 got subdivided into categories for placid, normal and virulent venomous snakes, with different experience prerequisites.)

- People with a keeper's licence will be able to get animals from interstate (on an import licence), if NPWS is satisfied the animals come from a legal source. (Victoria has 20,000 licensed reptile and frog keepers, who might be doing some breeding.)

- Garden animals won't need a licence if they are not confined.
- The proposed amnesty is a total one, i.e. no prosecutions or confiscations if people declare illegal animals. People will be allowed to keep whatever amphibians or reptiles they got and get a licence for them. Current keepers of animals on the prohibited list or of illegal exotic animals can't trade or swap them though; they have to keep them for the natural life of the animal or until it can be transferred officially.
- Over 5000 letters will go out to the respondents on the licensing proposals, with the above assurance and with licence application forms. There will also be a press release advertising the amnesty.

So how can you tell if someone's a frogger? By the dripping sneakers dangling from the rear bumper bar? Probably more likely by the way we're holding our breath, keeping our fingers crossed and our ears to the ground. As we meet in



Ears to the ground
fingers crossed
hold your breath

the swamps,
we secretly
exchange
the sign
of
the frog ..
L.V.

YOUR FROGWEEK PLANNER

Remember the first week in November? Frogweek's from Sunday, 2. 11. until Saturday, 8. 11., in practice of course including both weekends. Our range of projects and events depends entirely (that spells entirely) on the response to this notice. Please ring me on (02) 9371 9129 if you'd like to do something other than whatever you always do. The frogs and FATS need people who:-

- Help with stalls on the weekends.
- Help with props (e.g. gluing posters onto styro backing, making a frog wishing well) and with photocopying.
- Make up sets of info sheets for displays in libraries, councils, schools, shops, visitors centres and prod and arrange to set the displays up.
- Make up a new beaut poster, for uni notice boards etc.
- Lead field trips to froggy areas. This includes ringing ahead to the newsrooms of the local press and TV station so they got their cameras ready. They do that. I can give you contacts and suggestions if needed. (Non-members must be memberised for FATS field trips, because of our liability insurance.)

- Visit local radio stations and play them calls of threatened frogs in their area, to get the public to ring our Helpline (9371 9129) if they hear that call. Ring me first so I can get clearance from the author of the sound recording and I have a media resource book with a list of all the radio stations.
- Ring talkback stations to let them know Frogweek's on, and that frogs ain't doing too well and that farmers and gardeners can at least do something about it and that we can help them with that. (Don't forget to ask for the stamped addressed envelope - we are poor but honest folk.)
- Write to your local rag about frogs and Frogweek and FATS and oh everything and enclose a frog photo. Ken Griffiths can lend you one for that if need be.
- Ring a journo of a daily paper and make an appointment to drop in. Have some handouts and a picture (or your pet frog in person) with you. Irresistible.
- Write to the editors.
- Get the local rag to come and take a shot of your frog pond. Also ring me, to put your pond on an open-day pond crawl register for judging dignitaries (local MP plus personality plus academic expert, plus press), to be ferried around in the Voigt's troop carrier. (a) This needs say three frog ponds in each trip area of Sydney - so please ring, even if your pond's not as good as your lamingtons. (b) And it needs someone to organise it all with me, including the prizegiving (another media event).
- Get the owner of a nice country swamp and the local press together. You may know an environmentally sound dam or wetland, perhaps from your field trips. I'm sure FATS could cough up a prize and certificate upon inspection.
- Talk to school kids and their teachers and let the local rag know about that, too.
- Start a breeding colony. And help others to start one. Do a story on it as soon as licensing's approved, even before they've spawned. Do another one afterwards. Ring me if you're not sure about things like rainbars (and hormones if all else fails).
- Do a real sob story on some poor local banana frog, as soon as licensing's through, with photo and with our well-known standard FATS certificate for frog-saving fruiterers and shoppers. Make sure you quote our Helpline number and our policy on translocated froggies.
- Find somebody who will write something up for you if you refuse to do it yourself. If you know anything really good or really funny about frogs and can organise a picture, organise also someone to do the writing bit. We got to make a splash with the media, the rest is little chicken poo.

If you ring me first, we can make sure that not everybody contacts the same paper or radio or TV station. Afterwards,

please let Monica know how it went, for our newsletter. Also, I need to know now which projects are viable, for the press releases! Feel like a chicken yourself? Good. Adrenalin always feels good. Now let's get stuck into it!

L.V.

INTRODUCING FATS CHAIRPERSON: Giselle Howard

At my first FATS meeting I felt very much at ease, due in part to the warm and welcoming manner of chairperson, Giselle Howard. Unlike me, Giselle's first experience with tropical green frogs was a good one. She would spend hours turning over rocks looking for them when she spent her Christmas school holidays in Rockhampton.

Before she became fascinated with frogs, she was keen on collecting insects, particularly preying mantis. One day her mother brought home a tree frog which she had rescued from drowning in a rain gauge. Young Giselle put it in the same tank as her pet preying mantis, and, true to the law of nature, the frog ate the insect. He probably thought Giselle had his best interests at heart and was kindly providing him with a tasty meal.

Giselle's interest in frogs took a big leap forward when she met Martyn Robinson, an education officer at the Australian Museum. In Martyn she found a kindred spirit who loved frogs and insects too. She joined FATS in the late 1980s, has been actively involved in raising the profile of frogs and has a Science degree in Botany, Zoology and Geography. Her Honours project was on fossils from the Wellington caves and involved reconstructing part of an extinct turtle skeleton.

Outside of FATS, Giselle has another important job - working as an ecologist for the Department of Land and Water Conservation in the South Coast region. Her primary role is to advise local government on "best outcomes" in matters relating to the environment. This means helping them to explore all options available - including the need to protect frogs' habitat.

Giselle is actively protecting some frogs in her own right which she keeps in tanks at her home. Because it is not known where they came from, what their natural habitat was, they cannot be released. They include a couple of "banana frogs" which possibly came from Queensland. Her own personal froggy favourite is the Dainty Tree Frog, *Litoria Gracillenta*, which she admires because it is so quick in all of its movements.

Pam Mawbey



Giselle

Catching frogs in her grandma's garden
Rockhampton Christmas 1973

FIRST IMPRESSIONS OF FATS

Observations of a "frogaphobe"

Before my first FATS meeting last August, the only contact I'd ever had with frogs was when as a child I unexpectedly touched a cold and clammy, big green frog in my grandparents' letter box. This was during my Christmas school holidays at Sawtell in the NSW North Coast. It wasn't exactly a pleasant experience and I think on some level I've been afraid of frogs ever since.

Perhaps this explains why I've never taken much interest in frogs. That is, until I moved to Wahroonga. The first thing I noticed about the place was its spectacular trees and then, surprisingly, its frogs. I'd be greeted by a chorus of them when I'd get off the train of an evening, busily "calling" (before attending the FATS meeting, I would have said "croaking") away in foliage near the station. It was a happy, welcoming sound and I wanted to know more about the animals that were making it. I phoned Jacqui Gibbs of Hornsby Conservation Society who put me in touch with Karen Thumm who then told me about FATS.

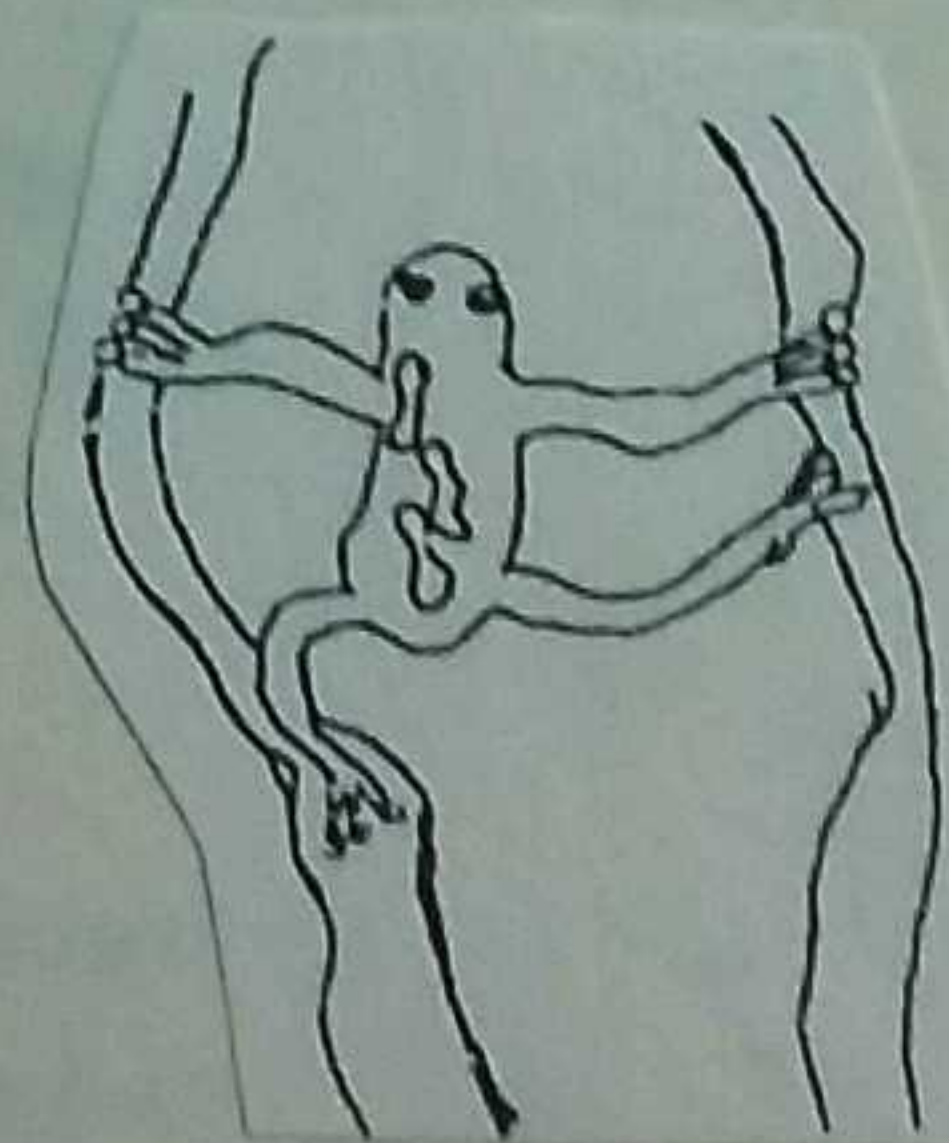
To the uninitiated a FATS meeting is a pretty amazing event. Being a bit of an intellectual, I became engrossed in the scientific presentation on the distribution of Green-thighed frogs around Bulahdelah. And being a somewhat intrepid explorer, I imagined myself on one of the excursions, tramping through swamps in the dark of night with a spotlight on my head picking up the gleam of frogs' eyes. By the end of the evening, I was really enjoying myself, entertained by the auctioneer's antics with some "frogabilia" including a pair of boxer shorts with frogs on them that shone in the dark.

But the one thing that really made me sit up and take notice were the people selling flies. I couldn't believe it. *People actually selling flies.* Obviously it made sense because frogs eat flies. But to someone like me it seemed quite over the top. Especially the idea of keeping the fly pupae in the fridge at butter temperature, with the proviso that if the power went off you would end up with a fridge-full of blowies! No matter how my relationship with frogs improves, it will never get *that* good

P.M.

INNER CITY FRROGS?

FRROGS



Behind the old Children's Hospital in Camperdown is one of inner Sydney's few remaining "wild" gullies. The gully is the remains of the Orphan School Creek, a small stream rising in The University of Sydney and flowing entirely in a culvert (except immediately after rain) to drain into Johnston's Creek in Annandale. As a result of 75 years of neglect, a tangle of herbaceous, shrubby and tree weeds has taken over the steep crumbly sides of the Gully.

Local dogs enjoy taking their owners for walks down the grassy middle of the Gully, and the owners enjoy seclusion from city bustle provided by overgrown steep gully sides. Local birds enjoy the Gully too, largely as shelter on their way elsewhere to feed and breed. The Gully is an important part of a green corridor extending from Sydney Harbour and Rozelle Bay to the University of Sydney.

FRROGs, a local community group, was formed last year with the aim of working towards the preparation and eventual undertaking of a revegetation strategy for the Orphan School Creek Gully. Our goal is to gradually return the Gully to indigenous vegetation as a means of encouraging native birds to stay longer and perhaps raise their young there. In particular, we are interested to encourage smaller types of birds to feed and perhaps breed in the Gully.

We found ourselves having to sell this idea not only to Leichhardt Municipal Council, but also to South Sydney City Council and Sydney Water, as these three official entities control the Gully. Our job has been complicated by South Sydney City Council's process of rezoning the old Children's Hospital site, 5.3 hectares with plenty of open space and bird habitat, which is to be sold by the Dept. Health for redevelopment within the next few years. One edge of this site forms the whole of one side of the Gully and its fate is of critical importance.

What have we accomplished? Well, many of us have no experience in bush regeneration, let alone complete revegetation of a degraded urban wasteland. With some persuasion, we managed to interest the National Trust in our project, and raised money to employ Ms Danie Ondinea and Louise Brodey of the National Trust to prepare a bush revegetation strategy for us. The money was raised locally (including a community funding grant from Leichhardt Council), and from a grant by the Australian Bird Environment Foundation. Completion of the plan is dependent on, amongst other things, the final outcome of rezoning the Children's Hospital.

Both municipal councils involved have given us generous support. Leichhardt Council declared the portion of the Gully in their municipality a bird sanctuary, and have provided material support in the form of rubbish removal on clean-up days, and supplies of plants and mulch for a small pilot planting project. South Sydney Council have incorporated some of our ideas in the draft rezoning document for the Children's Hospital Site. In addition, they have included us as part of the working committee for the site. In response to their rezoning document, we made a major written submission proposing strengthening and enlarging the open space provisions for the site to provide protection for the Gully, and special protection of specific vegetation within the hospital site as a natural extension of the Gully.

We also sent an audacious letter to the Department of Health requesting that they give over the Gully embankment

owned by the Department as a legacy to the people of this area. We await their response with interest!

Since the group's inception, we have had regular public meetings. In much the same vein as FATS meetings, we hope to publicise and gather support for our goals, educate ourselves, and plan activities. Some of our guest speakers have been Robyn Sim (Sydney Water), Bruce Lay (Strategic Planner in Leichhardt Council), Arthur White (FATS), Dr Glen Shea (reptile expert from the University of Sydney), Peter Jensen (Greening Australia), Lila Contzui (Strategic Planner, South Sydney City Council), Mark Robinson (bird watcher and habitat management expert).

A hardworking core of FRROGs has devoted many hours to monthly working bees to keep the Gully relatively clear of rubbish, to revegetate an embankment, and to keep weeds down in parts of the Gully.

We soon realised that, in order to tell if we had encouraged birds into the Gully, we had to know what was there to start with. So in February this year we instituted a systematic monthly bird survey. Although FRROGs members have observed about 26 species of native birds in gardens close to the Gully, the survey so far shows us, as we suspected, far fewer species in the Gully. Unlike the neighbouring gardens, the Gully lacks middle and lower storeys, favoured by many smaller birds. Furthermore, a few wild tangles of noxious weeds, including Lantana, are actually valuable in our Gully as shelter and nesting space for our few small birds.

The survey clued us into recognising that the neighbouring vegetation in the Children's Hospital was an important food and nesting resource for local birds. Recognition of the hospital vegetation's importance led us to develop a detailed catalogue of that vegetation in order to strengthen our response to the draft rezoning plan for the hospital.

We have also started to catalogue other denizens of the Gully. Talks by Arthur White and Glenn Shea alerted us to frogs and lizards which might once have inhabited the area, and which might still be around. We know that neighbouring gardens shelter some Peron's Tree Frogs, and Striped Marsh Frogs. With Glenn's help, we identified 4 skink species one morning in the Gully. There was great excitement a few weeks later when we found a leaf tailed gecko in a garden next to the Gully - quite a find for us inner city slickers!

We have established a healthy working relationship with Leichhardt Council who, for the most part, share our vision for a revegetation strategy aimed at encouraging and increasing native birds and facilitating their movement in the urban area. Our bird and lizard surveys have reminded us to take heed of the less visible inhabitants of the Gully, and reinforce our belief that work carried out on the Gully must be organised so as to minimise adverse impact on current habitat. Principles of bio-diversity and bush

revegetation weeding techniques will guide us in carrying out the revegetation strategy.

Frogs? did I hear you say? As far as we know, frogs don't breed in the Gully. It seems unlikely that we will be able to create habitat suitable for frog breeding in the Gully, although the revegetation, when complete, should make it easier for local frogs to migrate through the Gully.

So, why did we call ourselves FRROGs? And why is there an illustration of Peron's Tree Frog on our letterhead? Well, we wanted a catchy name of course, and some of us are very fond of small amphibians and have observed them in our gardens close to the gully ... so we became Friends, Residents and Ratepayers of the Orphan school creek Gully. The "s" is because there's more than one of us. A small boy was kind enough to draw a beautiful Peron's tree frog from life for us - and how could we refuse!

Anne Peaston

FROG WEEK

There will be two excursions offered in Frog Week with not only pleasure (looking and finding frogs) but also RESEARCH in mind. The NPWS North Metropolitan District are interested in getting more information on the frog fauna of the Brooklyn Dam and Marramarra National Park, because they have to assess how particular "activities" may impact on these areas. We have the chance of not only supplying data (locality data), but also making recommendations of how the frogs need to be protected.

As provisional dates I propose the 3/11/97 for Brooklyn Dam and the 7/11/97 for Marramarra National Park (cf. paragraph Transgrid cont:). If you would like to join in, please give me (Karen Thumm, Tel: 9482 1017) a call, so we can discuss a meeting place. Also, depending on weather conditions, we may try to do additional work at an earlier date.

Karen Thumm

SSTOP PRESS: LICENSING - ITS IN THE BAG!



Pam Allen, the NSW Minister for the Environment, has signed her approval to NPWS licensing proposals! She did that the day before she left for overseas; it just took some time for the news to percolate out of her office.

I assume that there will be an announcement and a press release before the end of September. A 1 month amnesty should then also be announced probably with immediate effect.

Time it appears, to stop holding our breaths. But the ears are still to the ground. We'll keep you posted as the story is being revealed.

L.V.

TRANSGRID

Do you remember Binya Close, Hornsby Heights? It was at the centre of a bid by residents to stop a housing development, because of the Giant Burrowing Frogs, Red-Crowned Toadlets and an endangered plant, *Persoonia mollis* ssp. *maxima* (Part 1, TSC Act). The D/A was withdrawn. The Bushland Officers of the Hornsby Shire Council have been taking special notice of the area since and so when Transgrid asked to be allowed to lop the trees under the powerline, an Review of Environmental Factors was requested.

Transgrid are to be congratulated at the level of concern shown. A detailed report was produced, explaining that no machines would leave the existing tracks, no tracks needed maintaining and that only individual trees were to be removed. The rare plants were tagged and protected. The areas which are used by the two frog species were delineated. The workmen were briefed on the sensitivity of the area, and there were several supervisors on site while the work was being carried out.

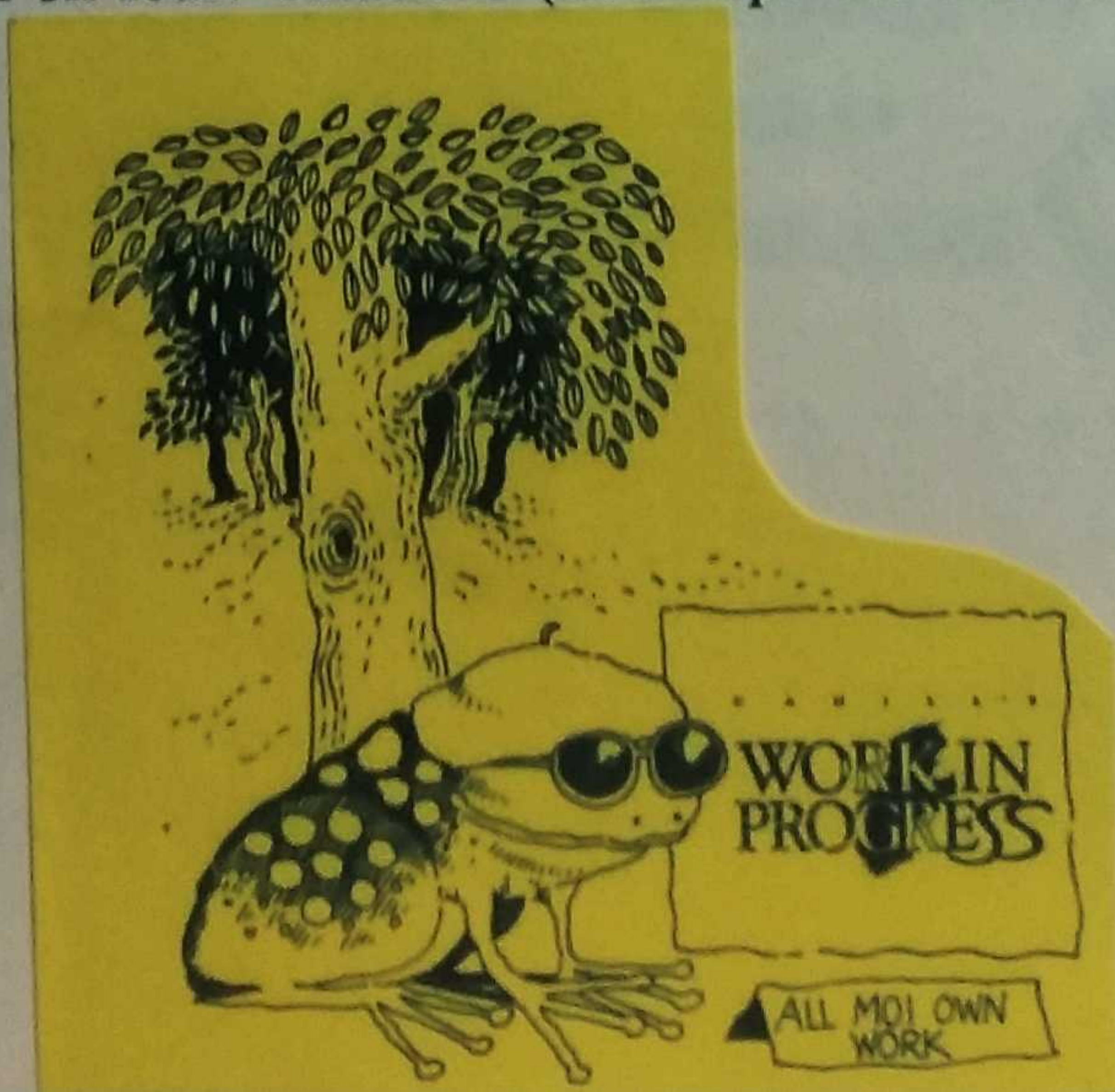
All in all it is a perfect example of how it is possible to carry out these necessary jobs with minimal impact. Transgrid appreciated help and advice from local residents and naturalists and at the end there was a very satisfying feeling that cooperation is worthwhile.

K. T.

TRANSGRID CONT:

Due to the satisfactory cooperation experienced in Hornsby Heights, Transgrid's representative, Tom Chambers, is keen for our assistance in Marramarra National Park, where similar work is to be carried out. It is intended that not just one survey take place to detect where threatened animals or plants are, but that we spend more time in order to get a feeling for numbers and extent of populations. NPWS North Met. District is also keen on our participation and any data we can collect (not "just" frogs). it would be great to have quite a few volunteers for this, so that we can share the work/fun. Persons with expertise in all areas very welcome. People without expertise also very welcome. Please let me know if you can help (Tel: 9482 1017). I hope to go out once a week on four? occasions (let's hope the weather is behaving).

K.T.



FIELD TRIP REPORT 16 AUG. 97

It was a beautiful mild August evening but with a predictable wind for that time of the year. About a dozen froggers rolled up at Darkes Forest on Saturday to what ended up being an enjoyable evening. We headed off on the first site along a service trail where the only sightings were a Tawney Frogmouth and a couple of Eastern Froglets and numerous tadpoles of the same species. Unfortunately it was pretty dry and not a lot was expected anyway.

After a coffee and a chat we headed off to check out a large pond where the predictable, for this time of year any way, Jervis Bay Tree Frog, Verreaux's Frog and Haswells Frog were calling in reasonable numbers. Two Jervis Bay Tree Frogs were located however Verreaux's frog and Haswells Frog remained elusive. The windy conditions kept frogs low in the reeds and difficult to see. None the less an enjoyable night.

Ken Griffiths

WHEN FLY EATS FROG

Knuckle-headed White-lipped Tree Frogs have appeared in my fruit shop and in that frequented by Paul Davies, with bumps in the wrong places. On closer inspection, each bump has a tiny hole with two breathing tubes sticking out. They hastily pull in when touched. But when you squeeze the whole bump, like a great big blackhead, out pops this huge beautiful bright yellow maggot. (You sometimes have to enlarge the breathing hole first though, with a sterilised scalpel - my kids use a Stanley knife.) Huge means a good 20 mm long and 8 mm across and really fat. Fly maggots of the genus *Batrahomyia*, Martyn says, who also found slightly smaller ones erupting from the Blue Mountain Tree Frog (see his article in Australian Nature, Autumn 97). Mine are with David McAlpine at the Australian Museum now, to see which fly species will emerge from them.

Keeping parasites as pets can be so rewarding! You get to keep the host as a bonus. And you might solve the riddle of how frogs get flyblown without them catching the fly first, and how the emerged maggot can make its getaway.

However, if your ability to enjoy maggots is culturally impaired, maybe pass yours on to the Museum too. But best wait till you're safely away from the fruit shop, or at least from the counter, before you pop them out of the frog.

L.V.

TADBITS AND FROGPIECES

Wanted: Large frog with mouth wide open - wicker, pottery, stone - anything. Needed for throwing coins into, as part of a FATS wishing well, to raise funds.

Please ring Lotar on 9 371 9129



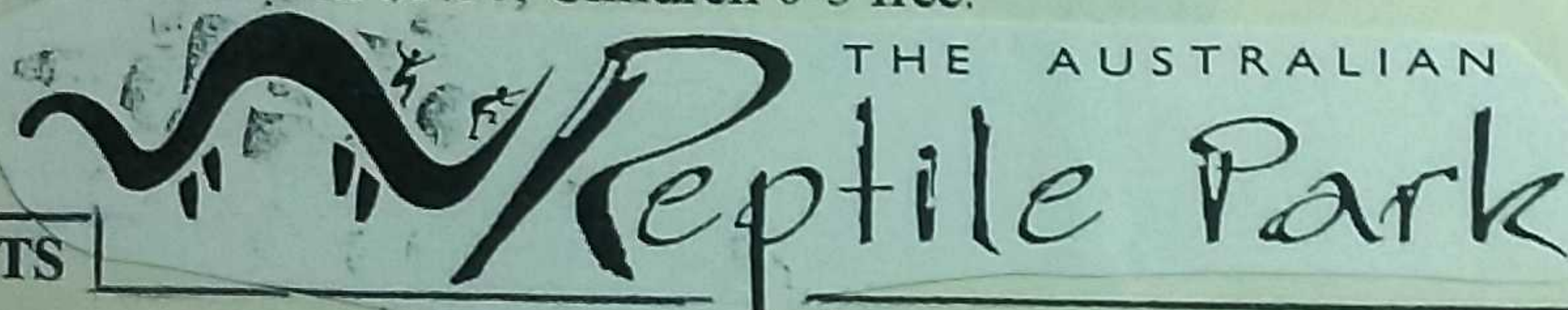
SCHOOL HOLIDAY OUTING

The Australian Reptile Park has moved to a magical bushland setting where visitors can still enjoy the largest collection of native and exotic reptiles in Australia. Just 45 minutes by car from Sydney and Newcastle and only 3 minutes from the Gosford Interchange on the Sydney-Newcastle Expressway. Simply follow the signs.

Facilities include gas barbecues, cafe, covered and open picnic areas and adventure playground. Touch a huge python, pat an alligator, watch a snake being milked, see Eric the famous crocodile, hand fed on Sundays, stroll along a picturesque bush walk with trickling streams and sandstone outcrops, view massive alligators leap for their lunch (Oct - Apr) and encounter informative talks by experienced keepers. Gosford Interchange, Somersby NSW Ph. 043 401 022

Adults \$10.95. Children \$5.50, Children 0-3 free.

M.W.



CONTACTS

		phone	fax
Frank Lemckert	President	(02) 9872 0159 (w)	(02) 9871 6941 (w)
Giselle Howard	Chairperson	(02) 9636 3762 (h)	(02) 9895 7501 (w)
Alison Frappell	Secretary	(02) 9436 0188 (h)	(02) 9418 9964 (w)
Arthur White	Treasurer	(02) 9599 1161 (h)	(02) 9599 1161 (h)
Anthony Nicholson	Membership Officer	(02) 9660 4393 (h)	(02) 9361 7981 (w)
Lothar Voigt	Publicity / Exhib Officer	(02) 9371 9129 (h)	phone first (h)
Vacant HELP!!!!	Publicity / Exhib Officer		
Ken Griffiths	Field Trip Co-ordinator	(02) 9520 9961 (h)	between 7pm and 8pm
Monica Wangmann	Editorial Panel	(02) 9797 6543 (h)	
Vacant - HELP!!!!	Editorial Panel		
2 people required	Editorial Panel		

PLEASE NOTE

THE NEXT FATS MEETING DATE

HAS RETURNED TO

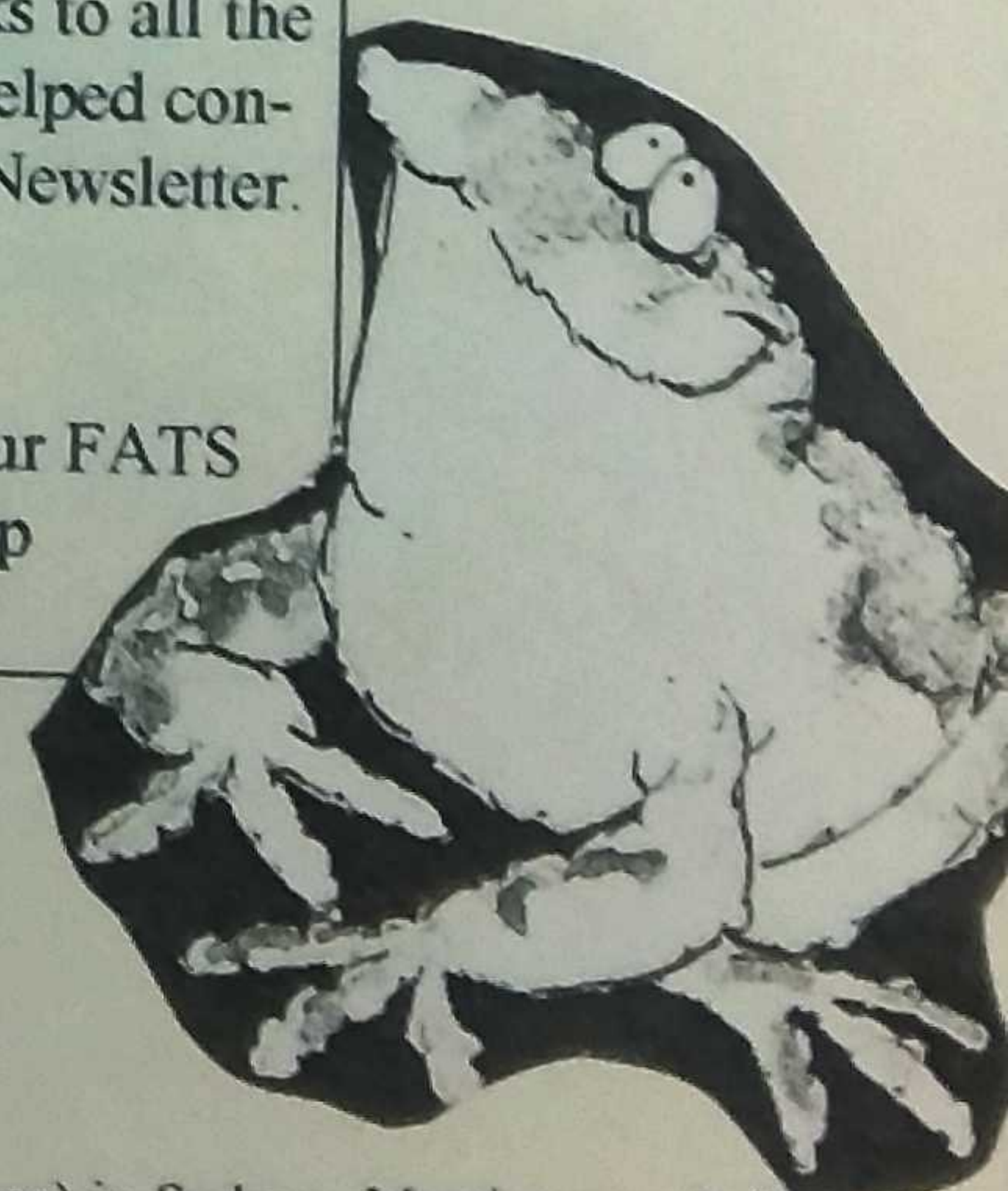
FRIDAY

3rd October 1997



And our thanks to all the people who helped contribute to the Newsletter.

Your FATS Group



TADPOLES WANTED

We need something like an inventory of species of frogs that are available for distribution amongst our members. Please let *Frogcall* know (that's Monica on 9797 6543) if you have any spare frogs, spawn or tadpoles you could bear to give away, or that you may have available in the future. They will all go to good homes, i.e. FATS members who will be given care sheets and who will be applying for a keeper's licence during the amnesty period.

At the moment we have enough Brown-striped Marsh Frog tadpoles, all from the Sydney area, but that's all. (We do need to know which area they come from.)

Your good deed will help increase the number of people able to keep and raise frogs, it will of course also increase our membership, and above all it will allow FATS Group members collectively to have the many different species available that are currently being held.

L.V.

Three new care sheets are hopefully coming out in time for licence applications: "Keeping Ground Frogs", "Keeping Tree Frogs" and "Raising Tadpoles". Arthur and I are writing them together. We hope they'll be available through NPWS.

Ku-Ring-Gai Wildflower Gardens staged its annual Wildflower Festival on the 23./24. August weekend. Great show as usual, and everyone loved the FATS stand. Many thanks to Wendy and Monica for all the help.

L.V.

We hold six informative, informal, topical and practical meetings each year at the Australian Museum (William Street entrance) in Sydney. Meetings are held on the first Friday of every even month (February, April, June, August, Oct. and Dec.) at 7 pm for a 7:30 start. Visitors are welcome. We are actively involved in monitoring frog populations and in other frog studies, and we produce the newsletter *FROGCALL* and *FROGFACTS* information sheets.